REGIONAL

TRAUMA PLAN

CENTRAL MISSISSIPPI

TRAUMA REGION

CMTR 2005

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APPENDIX

2. Summary of the Plan

a. Overview of Trauma System Design and Operation

This Trauma Plan provides a framework by which regional trauma resources can be identified and evaluated, and arranged into a system designed to meet the needs of injured patients. It contemplates an inclusive trauma care system which incorporates every health care facility with resources to care for injured patients.

In comparison with previously existing systems which are motivated by treatment of the severely injured patient, this inclusive system includes procedures for managing the most severely injured patients, but also recognizes the importance of support hospitals in caring for the majority of the less seriously injured patients. The goal of an inclusive trauma system is to match each trauma care facility's resources to the needs of injured patients, so that each patient receives optimal care for his injuries.

This Plan is the Central Mississippi Trauma Region's preplanned response for care of injured patients, for notification and dispatch, accurate identification of the level of care needed by an injured patient, rapid transport or transfer to the appropriate care facility, and integration of support and other services designed to effectively and efficiently return the patient to the community.

The Plan, administered by the Central Mississippi Trauma Region, is a living instrument, to be continuously developed, evaluated and modified to meet changing legislation, regulatory standards, changes in regional resources and medical developments. This will be accomplished by regular and systematic evaluation and feedback in the performance improvement process.

b. Background/Historical Data

The Central Mississippi Trauma Region had its beginning in the summer of 1999 when a group of physicians, nurses, administrators, educators and trauma coordinators from the central Mississippi area met to lay the groundwork for implementation of the statewide trauma plan in the area designated by the State Department of Health as the Central Region. The planning committee voted to incorporate as a non-profit corporation, and prepared a tentative budget. At the time, Mississippi was divided into six regions, with the Central Region consisting of 22 counties.

In September, 1999, the Central Region completed all requirements for incorporation as a not-for-profit Mississippi corporation, including acceptance of the corporate Bylaws. In November, 1999, the Central Region made formal application by letter to Dr. Ed Thompson, State Health Officer, requesting designation as a Trauma Region. The following month, the Region was notified that the Mississippi Department of Health, on recommendation of MTAC, had split the Central Region into two regions. The Central Region is now comprised of the following counties: Attala, Copiah, Claiborne, Hinds, Holmes, Jefferson, Leake, Madison, Rankin, Scott, Simpson, Smith, Warren, Yazoo. The following month, the Central Region achieved formal recognized status upon the signing of a contract with the State Department of Health. At its April meeting, the interim

Board of Directors elected the first regular Board of Directors. The Board hired an Executive Director of the Central Region, and authorized the leasing of office space and the hiring of a secretary. The Region subsequently leased an office at 855 S. Pear Orchard Road, Suite 401, Ridgeland, MS 39157. This office is shared with the Central Mississippi EMS District, which shares overhead costs, including rent and secretary.

The Board, under the direction of Dr. Rick Carlton, established the mandatory Peer Review Committee membership to be limited to physicians, primarily surgeons, but specified that physicians representing other specialties would be appointed to serve as needed for their particular expertise. In subsequent action, the Board commissioned the formulation of destination and referral policies, giving consideration to COBRA/EMTALA requirements. The Region sought and received 501(c)(3) tax exempt status.

c. Administrative Structure, Governance and Leadership

An Advisory Council, consisting of administrator and physician representatives from each member hospital, recommends actions to the Board of Directors. The Board of Directors oversees the Region's administrative functions, including setting policies for membership in the Region, representation on the Board and Advisory Council, Board membership, voting privileges, and financial policies.

A committee structure has been established to recommend actions to the Board of Directors in particular areas: Education, Injury Prevention, Medical Control, Quality Assurance, Pediatric and Trauma Registry.

The Executive Director manages the day-to-day business of the Region, and directs the administrative goals and responsibilities of the system, including:

- Assess the needs and resources of the Region.
- Develop the system design, including the number of trauma care facilities, considering current patient flow patterns.
- Assure that all providers have a role in the system.
- Work with designated trauma centers, both within and outside the Region to assure appropriate outreach and mutual aid programs exist.
- Develop a regional trauma registry.
- Assist the Region's acute care facilities in the implementation of a hospital trauma data collection system.
- Establish a pre-hospital data collection system that is capable of interfacing with the trauma data system.
- Design and institute a quality monitoring system assuring compliance with all appropriate state laws, regulations and local policies, procedures and contractual arrangements.
- Analyze the impact and results of the system and make appropriate changes to the system to assure the highest possible level of patient care.

d. Population, Geography and Healthcare

The Central Region's 14 counties cover an area of 9,616 square miles, and serves a

population over 663,000 (1996 figures). The Central Region includes the state's capital city and most populous county, but most of the counties are composed of vast rural areas. The Region is served by Interstates 55 and 20, which bisect the region north/south and east/west, respectively. The region is also served by a state highway system, rail lines, and numerous airports, including Jackson International.

Regional membership currently consists of thirteen hospitals, including 11 approved at Level IV, 1 approved at Level III, and 1 at Level I. Also located within the geographic boundaries are six non-member hospitals, 3 of which would be presumed to be Level IV's, 2 are presumed to be eligible for approval at Level III, and one at Level II, if they were Regional participants.

e. Overview of Prehospital Capabilities

Each county within the Central Region is served by at least one private or public ALS level ambulance service. Additionally, the Region is served by a helicopter air ambulance owned and operated by University of Mississippi Medical Center, the Region's sole Level I participant. A large area of the Central Region is included within the Central Mississippi EMS District; consequently, a large part of the Region has been joined in a unified prehospital medical control system.

f. Major Problems and Proposed Solutions

There are currently six hospitals within the Central Region which are not participating. Outreach to these facilities is planned, to assess and respond to their concerns, with the goal of 100 percent participation.

Delivery of educational programs to emergency department personnel is difficult for many hospitals to accomplish, due to scheduling and funding problems. The Central Region is currently conducting an assessment of educational and training opportunities available within the Region, and has approved funding to assist in the education and training of emergency personnel.

3. Objectives

a. Reduction in Injury and Mortality

Generally, the objective of Mississippi's Trauma System is to reduce mortality and morbidity from traumatic injury. Specifically, the objective of the Central Mississippi Trauma Region is to identify all the components identified with optimal trauma care, given available resources, and to provide that care to best meet the needs of all injured patients, wherever they are injured, and wherever they receive care within the Region.

b. Trauma Plan Development and Implementation

Consequently, a primary objective of the Central Region's Trauma Plan is to provide for the ongoing evaluation and development of the plan to respond to changes in regional resources and needs. Essential in the Plan is the identification and assessment of all resources available within the Region, and to incorporate all appropriate resources under the plan. The plan also contemplates a goal of 100 percent participation of all facilities located within the Region, and to ensure a sense of system ownership among all participants, and to foster a commitment to ensuring ongoing involvement and participation.

c. Provider Education & Training

An ongoing system inventory will enable the Region to assess the capabilities of facilities and to improve medical care delivered by assisting with provision of educational and training for providers. Substantial financial resources have been allocated for education and outreach activities. The quality of medical care will be evaluated through the Regional Trauma Registry, whereby deficiencies or problems will be identified and remedied through performance improvement and peer review.

d. Injury Prevention

Just as significant as the provision of optimal trauma care are the objectives of reduction in the incidence and seriousness of traumatic injuries. This can only be accomplished by use of trauma registry data to identify the pattern, frequency, and risks of injury within the Region to give an accurate picture of injury occurrence. Based on these data, scientifically based and implemented injury control and public education programs will be set in place to reduce unnecessary mortality and morbidity. Initially, the Region has committed to endorse and participate in child safety seat programs, seat belt usage (including support of stronger seat belt legislation in Mississippi) pediatric safety programs such as Think First, four-wheeler safety programs, and injury prevention programs for senior adults. Enormous costs are associated with the treatment of injuries. In an environment of limited health care resources, effective prevention strategies have the potential to reduce these costs, in addition to the obvious benefit of reducing the incidence of accidental death and disability.

The Central Region has committed substantial financial resources to injury prevention and education. In addition, the Region has made available grants for research.

e. Assessment of Rehabilitation Resources

A long-term goal of the Region is to assess the rehabilitation resources available within the Region, and to assess existing trends in referral for rehabilitation. A significant regional resource is the Mississippi Methodist Rehabilitation Center, which is housed at the University of Mississippi Medical Center.

Summary

Ultimately, through the realization of the goals of injury reduction and provision of optimal trauma care, the objective of the Trauma System is to prevent loss of human life, and to prevent diminution in quality of life, resulting from traumatic injury.

4. Implementation Schedule

The development of policies and procedures are ongoing committee activities. Upgrading and revision of administrative policies will continue, and they will be submitted to the Region's Board of Directors as they are completed.

Medical Direction, Transfer and Performance Improvement policies will be implemented as they are developed and approved, and as training and orientation progresses. It is the intention of the Region to expand and implement these policies in a timely manner.

The Board will continue to evaluate and approve ongoing additions to the Plan. Revision of the Plan will be a continuous process, to accommodate changes in legislation, changes in capabilities and resources within the Region, and changes in criteria and standards .for optimal care.

Implementation of the Regional Trauma Plan has been accomplished as follows:

1. System Organization & Management

The Central Region has been formally established, has established its governing authority, and has hired managerial/administrative staff; **currently implemented**.

2. Trauma Care Coordination within the Region

The Region is nominally the coordinating and medical control authority for trauma care within the geographic confines of the Central Region. As the Region matures, and as policies are promulgated and placed in effect, the Region will exert broader coordination and control; **implementation ongoing.**

3. Trauma Care Coordination with Neighboring Regions

Transfer of patients from other regions is currently coordinated according to regional trauma plans. Facilities transferring patients to facilities within the Central Region are required to execute transfer agreements with those facilities. As development of the regions continues, their administrative staffs maintain close contact to address inter-regional issues and to refine the mechanisms of coordination between the regions; **implementation ongoing.**

4. Data Collection and Management

The Region is currently engaged in collecting data for annual trauma care reimbursements, state Trauma Registry, and Regional Trauma Registry; **currently implemented**

5. Coordination of Transportation

The Region has promulgated Guidelines for prehospital management of trauma Patients, field triage, and criteria for transfer of patients; **currently implemented.**

6. Integration of Pediatric Hospitals

Full integration of pediatric hospitals will be an ongoing process; however, the following

basic components are in place: development of interfacility transfer guidelines, development of transfer protocols between tertiary, secondary and primary pediatric trauma centers, and establishment of effective working relationships between regional facilities and children's hospitals; **currently implemented**.

7. Availability of Trauma Center Equipment

An assessment of regional resources is currently underway. Regional facilities are required to have required trauma center equipment in place; **currently implemented**.

8. Availability of Trauma Team Personnel

Regional facilities will be required to have the necessary trauma team personnel, and an on-call/staffing system in place; **currently implemented**.

9. Criteria for Activation of Trauma Team

Criteria for trauma team activation are currently in place; **currently implemented**.

10. Mechanism for Prompt Availability of Specialists

Regional facilities are required to have the necessary specialists, and an on-call/staffing system in place; **currently implemented.**

11. Performance Improvement and System Evaluation

The Region has established a Performance Improvement Committee. Initially, performance improvement evaluations will be aimed at the trauma system itself, and the implementation of policies, procedures and guidelines. The Regional PI Committee will meet no less than quarterly to identify and remedy specific issues which arise in the patient care process. The Committee has appointed an Executive Committee to administratively act upon issues as they arise, to promptly forward issues pertaining to facilities in other regions to the respective regions for action, and to refer Central Region issues to the full CMTR PI Committee; **implementation ongoing.**

12. Training of Prehospital Personnel

Training of prehospital personnel in trauma care, triage and transport criteria is currently adequate. However, training requirements for EMS personnel will be continuously re-evaluated and revised as the system matures; **currently implemented.**

13. Public Information and Education

The Central Region has evaluated the public relations and public education program for the trauma system, through the Region's Injury Prevention committee; **currently implemented.**

14. Lay and Professional Education

Public injury prevention programs are **currently being implemented** by the Injury Prevention Committee. The Education Committee evaluates professional education supply and demand within the Region, and is involved in coordination of professional education within the Region**.**

15. Coordination with Public and Private Agencies and Trauma Centers in Injury Prevention Programs

The Region continues to expand its ongoing involvement with public and private agencies and trauma centers through its Injury Prevention Committee. The Region's goal is to have broad liaison with agencies and organizations involved in injury prevention; **implementation ongoing.**

5. Administrative Structure

a. Corporate

The Central Mississippi Trauma Region is a not-for-profit Mississippi Corporation, governed by a Board of Directors. Governance is according to corporate Bylaws, which set forth the Region's purpose and mission, provisions for membership, election, meetings and action of the Board of Directors, Advisory Council and committees, administration and management, officers, standing committees, conflicts of interest, disposition of assets upon dissolution, and compliance. The Board has administrative authority over the operation of the Trauma Region and subsequent trauma system programs. (*MTCSR*, §V. 5.1) In conformity with the regulatory framework established by the Mississippi State Department of Health, the Region functions administratively to ensure that the system is responsive to the needs of all injured persons and to adhere to realistic timeframes for system planning, development and implementation. The Region is charged with development and adoption of trauma standards, implementation of triage guidelines, establishment of a regional data collection system and evaluating system performance.

b. Board of Directors

The Board consists of one physician and one administrator from each trauma center level, the physician medical director, and two representatives appointed by emergency medical services. Officers of the Board are: Chairman, Vice-Chairman, and Secretary/Treasurer. The Board of Directors is authorized to receive funds and to expend funds as may be available for any necessary and proper trauma care program purposes in the manner provided for in the Regulations or in law. (*MTCSR,* §V. 5.3)

c. Advisory Council

As a public entity, the Region is obligated to afford a representative voice to participating providers, as well as the public they serve. The Advisory Council consists of one administrative representative from each member hospital, and one physician appointed by the medical staff of each member hospital. Also advisory to the Board are the following committees: Medical Control, Performance Improvement, Education, Injury Prevention, Pediatric and Trauma Nurse Coordinators/Trauma Registrars. The Advisory Council and various committees formulate recommended policies and procedures for submission to the Board for final approval.

d. Regional Committees

The responsibilities of the respective committees are as follows:

Medical Control Committee: Medical Organization & Management, Inclusive Trauma System Design, and Operational Implementation of Policies developed: System Organization & Management, Trauma Care Coordination within the Region, Trauma Care Coordination with Neighboring Regions, including designated Trauma Region Agreements, Coordination of designated Trauma Regions & trauma systems for transportation, including InterTrauma Center transfers and transfers from receiving hospitals to a Trauma Center, Integration of Pediatric Hospitals, including pediatric triage

criteria, Availability of Trauma Center Equipment, Availability of Trauma Team Personnel, Criteria for Activation of Trauma Team, Mechanism for Prompt Availability of Specialists, and Air Transport.

Performance Improvement Committee: Performance Improvement Processes, and Performance Improvement and System Evaluation including responsibilities of multidisciplinary trauma peer review committee

Education Committee: Training of prehospital personnel to include trauma triage, Public Information & Education, Lay and Professional Education, and Injury Prevention Programs

Trauma Nurse Coordinator/Trauma Registrar Committee: Description of Critical Care Capability within Region, including but not limited to: burns, spinal cord injury, rehabilitation & pediatrics, Regional Trauma Plan, Policies & procedures for data collection & management, and Training of Regional Hospital personnel for data collection & management.

Injury Prevention Committee: Identification of causes of traumatic injury, coordination and sponsorship of programs to raise public awareness and to prevent injuries within the adult and pediatric populations of the Region.

Pediatric Committee: liaison with agencies involved in identification and prevention of traumatic injuries and deaths to children; development of policies, in conjunction with the Education Committee, for enhancement of pediatric treatment procedures, and development of education programs for providers

Each committee's business is conducted according to published Bylaws.

e. Executive Director

A part-time Executive Director oversees the day-to-day administrative affairs of the Region, under the direction of the Trauma Region Board.

f. Inter-regional Interaction

The Region is required to provide documentation of formal referral agreements among all participating regional hospitals and, if necessitated by a lack of in-region service, documentation of linkages to other appropriate out-of-region hospitals for referrals. The Region is also required to provide documentation of linkages to a Level I facility for training, education, and evaluation, which Level I facility must be recognized by the Mississippi Department of Health and committed to participation in the state trauma care system. (*MTCSR*, §V. 5.4)

System integration with other regions is assured by ongoing interaction between regional directors for exchange of information regarding common problems, prehospital and clinical education, transport/transfer, and other issues. Regional directors will meet no less often than semi-annually to meet and exchange information, on such issues as

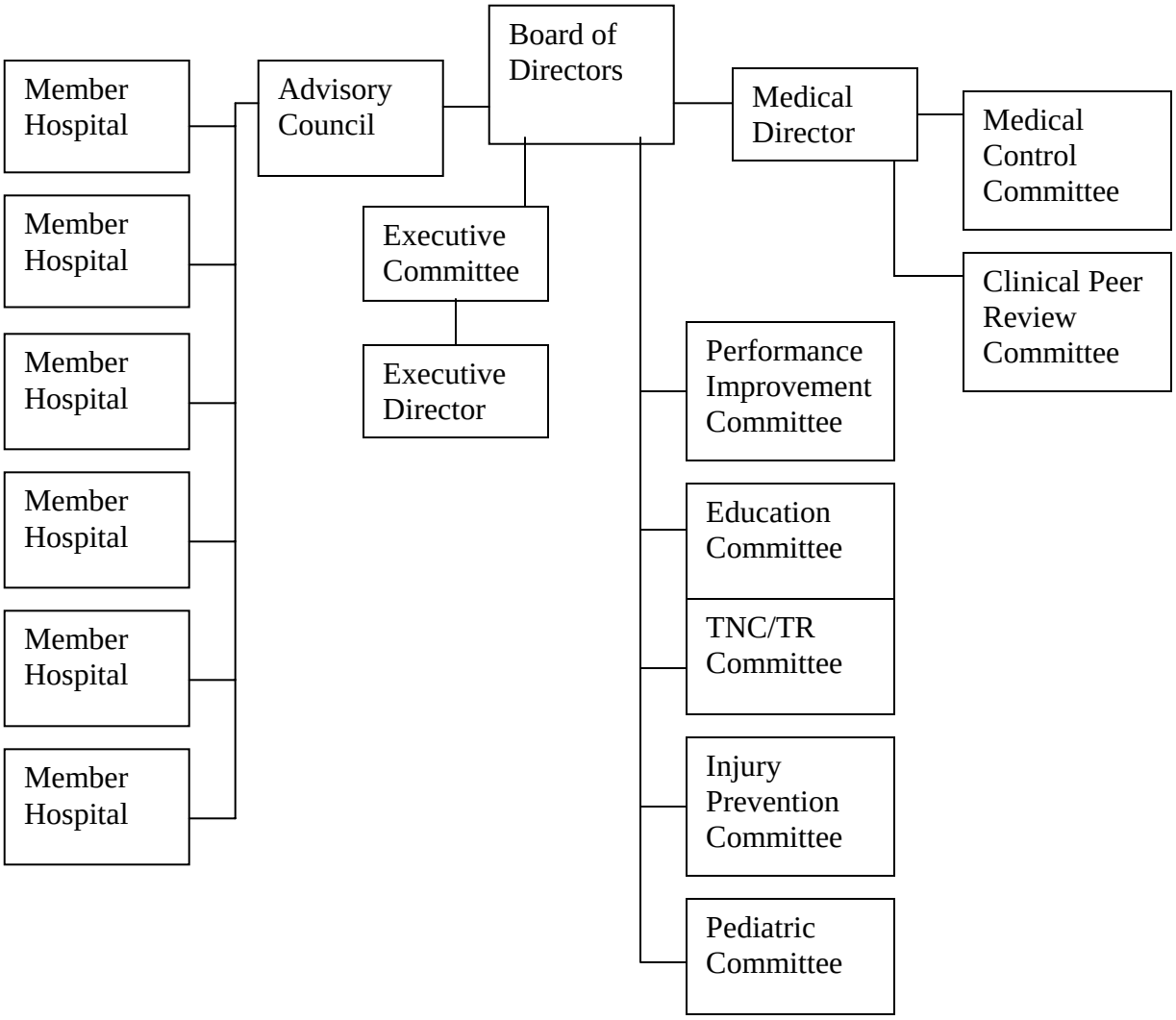
prehospital policies and procedures, inter-regional performance improvement policies, uncompensated trauma care reimbursement, legislative issues, and other issues of common concern to the regions.

g. Costs and Funding

Costs of regional administration have been assessed and a budget is prepared annually. Fixed costs include office overhead, and director and secretary salaries. Other costs include: travel, education, outreach and injury prevention. The Region's funding is derived from the State of Mississippi's Trauma Care Trust Fund. Each Region is currently allocated administrative funding in the amount of $85,000 per year.

Central Mississippi Trauma Region

Organizational Chart



6. Plan Description and Operations

A. Prehospital Care

1. Trauma Triage Criteria

The Region has established criteria for triage of trauma patients with the goals of stabilization of immediate life threats to the extent possible, delivery of the patient to an appropriate facility where surgical treatment can be provided. The triage criteria set forth guidelines for treatment onscene and during transport. Based on Revised Trauma Score parameters, guidelines are established for a hospital destination. Protocols have also been established for situations involving: multiple patients, cardiac arrest secondary to trauma, pre-notification of medical control, and over- and under-triage.

2. Interfacility Transfer Policy

The goal of the transport component is the timely delivery of trauma patients to designated facilities, utilizing the most expedient and appropriate means of transport. Of primary concern in the transfer process is reducing the time from injury to appropriate definitive care, and criteria for consideration of transfer have been established to aid in reducing elapsed time between injury and receipt of definitive care. Guidelines for patient transfer have been established, and set forth: responsibilities of the sending and receiving physicians, management during transport, and information which should accompany the patient. Interfacility transfer agreements have also been drafted.

3. Non-Participating Hospital Bypass Policy

The Region has developed and promulgated policies for diversion and bypass, and prehospital providers are required to transport and transfer patients according to these policies. Non-participating hospitals continue to receive patients according to historical transfer patterns. However, the Region cannot assess the resources and capabilities of non-participating facilities. As this Trauma Plan is developed and implemented, facilities and prehospital providers will be required to transfer patients to facilities with specified and verified capabilities and resources. This could compel the participation of non-participating facilities, or it could prompt bypass of those facilities for trauma patients.

4. On- and Off-Line Medical Control

On-line medical control is coordinated through the Region's Level I Trauma Center, University of Mississippi Medical Center. Off-line medical control is coordinated through the Region's Medical Control Committee.

5. Performance Improvement

The Trauma Plan calls for system performance to be monitored continuously to assess its impact on trauma mortality and morbidity. A Regional Trauma Registry is being developed, utilizing software currently in use for the statewide trauma registry. Certain data elements will be collected by each facility and transmitted to the Region along with statewide trauma data for overall monitoring of the system. Only numeric identifiers will be utilized to assure patient confidentiality. All hospitals will be required to participate in a trauma performance improvement process. The Performance Improvement Committee

has been established to review certain potential problem cases and system issues identified through the Regional Registry. Feedback will be provided to hospitals and physician providers.

6. Education

The Region will coordinate training of EMS personnel in the modalities of prehospital trauma care, triage criteria, destination policies, aeromedical dispatch criteria, and local hospital capabilities. Policies will be established for professional education, to include training of hospital personnel and physicians in stabilization, treatment and transfer of trauma patients. Education will include the training of trauma registrars and other personnel on data collection and management.

7. Clinical Treatment Protocols Specific to Trauma

The Region's Medical Control Committee has developed trauma protocols for clinical providers.

8. Communications Systems

All prehospital vehicles are required by Mississippi law to be equipped with VHF radios capable of accessing the state hospital network on 155.340 MHz. In addition, any provider may access the Central Mississippi Emergency Medical Services District's UHF Medical Control system, with towers and repeaters located at various locations throughout the Central Mississippi area. Providers may also establish contact with the medical control authority at UMC via cellular phone. A digital recording system records all communications from all incoming radio channels and a designated telephone line.

9. Transport, Including Use of Air Versus Ground Ambulances

The Region has established criteria for aeromedical transport. Recognizing that aeromedical providers are Regional resources, the Region has established guidelines for evaluating patients for air transport, to ensure that such resources are utilized appropriately. The Region requires aeromedical providers to have a structured air medical safety program to guide prehospital personnel in establishing a safe landing site, proper loading procedures, communications with pilots and medical personnel, and safe procedures in proximity to an operating helicopter.

B. Definitive Care Facilities

The Region has adopted the standards promulgated by the Mississippi State Department of Health as the facility standards for the varying levels of trauma centers. (see *Mississippi Trauma Care System Regulations*, sections XI-XV) These general policies related to trauma centers are implemented, monitored, evaluated and enforced through the Trauma Plan and its performance improvement process.

C. Role of Non-Participating Acute Care Facilities within the Region

Non-participating acute care facilities continue to receive patients commensurate with their capabilities and resources.

D. Specialty Referral to Centers Outside the Region

The sole specialty center receiving patients from the Central Region is the Burn Center located in Greenville, Mississippi. The transfer of burn patients is accomplished according to existing criteria established by that facility. Transfer may be coordinated through the medical control authority at the University of Mississippi Medical Center, and may be accomplished via that facility's aeromedical unit.

E. Medical Rehabilitation

Each facility within the Region will be required to document a plan for integration of rehabilitation into the acute and primary care of the trauma patient, at the earliest stage possible. Hospitals will be required to identify a mechanism to initiate rehabilitation services and/or consultation upon admission, including policies regarding coordination of transfers between facilities. These transfers will require specific periodic feedback of patient progress to the acute care facility to update the healthcare team and ultimately the system trauma registry.

F. Public Education and Injury Prevention

The Region's Trauma Registry will be utilized to identify the patterns, frequency and risks of injury within the community. The Region will assume a coordinating role with other public and private agencies and trauma centers in initiating and promoting injury prevention programs.

G. Professional Education

Regional providers will be required to document compliance with professional education standards for treatment of trauma patients. The Region will assist in providing and coordinating professional education and training programs.

H. Trauma Research

The Region has budgeted funds designated for research. Policies have been developed for application for and utilization of research funding.

7. Medical Organization & Management

Medical Direction is coordinated by the Region's Medical Director. The Medical Director's role is to Director to ensure medical accountability, act as a trauma system advocate, and provide for medical credibility throughout system development. The Medical Director is assisted by the Medical Control Committee, whose role is to develop, revise and monitor all operating protocols and procedures by physicians, including reviewing prehospital reports for compliance with preestablished procedures. The Medical Control component will engage in an ongoing process of linking medical protocols to the needs of the injured and changes in technology, ensuring integration of the trauma medical care policies and the EMS system, overall evaluation of the trauma system and recommendation of changes.

Through a quality assurance process established by the Quality Assurance Committee, the Medical Control Committee will conduct continuous performance improvement geared toward improving the final outcome of injured patients. This will be dependent upon effective monitoring, integration and evaluation of all components of the patient's care. Standards will be established for prehospital personnel, who will be held accountable to the medical direction system.

Medical Control procedures have been established, and are set forth in Section 15, herein.

8. Inclusive Trauma System Design

The Central Mississippi Trauma Region is one of seven geographic components of Mississippi's Trauma System. The System's primary goal is to ensure that each trauma patient receives optimal care, at a facility which is appropriate for that patient's needs. The Central Region presents a unique challenge in achieving inclusiveness, since it includes major population centers as well as rural areas, a number of non-participating facilities, and counties without hospital facilities.

The fourteen-county area of the Central Mississippi Trauma Region includes the following facilities:

Level I:

University of Mississippi Medical Center, Jackson

Level II:

None

Level III:

River Region Medical Center, Vicksburg

Level IV:

Claiborne County Hospital, Port Gibson
Hardy Wilson Hospital, Hazlehurst
Lackey Memorial Hospital, Forest
Leake Memorial Hospital, Carthage
Madison County Medical Center, Canton
Magee General Hospital, Magee
Montfort Jones Hospital, Kosciusko
Rankin Medical Center, Brandon
River Oaks Hospital, Jackson
Scott Regional Medical Center, Morton
UMC-Holmes County, Lexington

Non-Particpiating Facilities:

Central Mississippi Medical Center, Jackson
Jefferson County Hospital, Fayette
King's Daughters Hospital, Yazoo City
Mississippi Baptist Medical Center, Jackson
St. Dominic Medical Center, Jackson
Simpson General Hospital, Mendenhall

The above designated trauma centers are the key components of the Central Mississippi Trauma Region; however, non-designated facilities and the needs of counties within the Region which have no hospital facilities have been included in this Trauma Plan.

9. Interfacility Trauma Center Transfer Agreements

The CMTR Board of Directors has approved an Interfacility Transfer Agreement, which is attached to this Section. This Agreement is recommended for transfers between all levels. This Agreement is also recommended for transfers from out-of-region facilities to receiving facilities within the Central Region.

TRANSFER AGREEMENT

I. INSTITUTIONS

This agreement, made and entered this ___ day of _____, 2001 is between

_____,
(Hospital) (Address) (City, State, Zip)

(hereinafter referred to as TRANSFERRING FACILITY) and

_____,
(Hospital) (Address) (City, State, Zip)

(hereinafter referred to as RECEIVING FACILITY).

II. PURPOSE

In order to assure the appropriate, timely and orderly transfer of patients between the TRANSFERRING FACILITY and the RECEIVING FACILITY, as well as to maintain the desired level and continuity of care of patients so affected, the parties involved agree to coordinate their efforts to achieve these objectives. It is further agreed that said parties agree to cooperate in securing optimum use of their facilities and available services during routine and emergency conditions.

III. AUTONOMY

Nothing in this agreement shall alter the freedom enjoyed by either institution, nor shall it affect the independent operation of either institution.

IV. TERMS

1. Patient transfer to RECEIVING FACILITY be requested and accomplished for the purpose of securing a level of care or service which cannot otherwise be provided at the transferring facility. It is clearly understood that the financial circumstances of the patient, in and of themselves, are not sufficient reason to justify or request transfer.

2. Transfer, when justified, must be accomplished by request from the patient's attending physician to an appropriate member of the medical staff of RECEIVING FACILITY. After medical and bed availability approvals have been granted, the TRANSFERRING FACILITY and its physician will be informed of the status of the request. Transfer may not be initiated until final approval has been given. Information needed to facilitate the reception of the patient at RECEIVING FACILITY must be obtained at that time.

3. Patient transfer is subject to availability of services, beds and other resources which might be needed to care for the patient. RECEIVING FACILITY agrees to provide necessary services when suitable accommodations are available, consistent with its mission and objectives.

4. In the event of a question as to the ability of RECEIVING FACILITY to accept the patient, the administrator on call or other appropriate person within the hospital's chain-of-command will render a final decision.

5. Responsibility for the transfer of the patient will rest with the TRANSFERRING FACILITY.

6. At the time of transfer, the TRANSFERRING FACILITY will provide an abstract of appropriate medical, social, financial and other information necessary to continue the patient's treatment, without interruption, including:

    - Test/Laboratory results
    - Medications given
    - Pertinent social/environmental information
    - Dietary instruction
    - Photocopies of appropriate physician/nursing notes

7. RECEIVING FACILITY and the TRANSFERRING FACILITY further agree that, in the event of a disaster or other emergency, normal preparatory mechanisms will be waived in order to provide for the safe and effective care of the patient, with the exception that the TRANSFERRING FACILITY shall always agree to request and receive approval prior to the transfer of any patient. Necessary information will be furnished as soon as possible and all other terms will similarly remain in effect.

8. RECEIVING FACILITY shall provide patient intervention and outcome data required by the Mississippi Trauma Care System to the TRANSFERRING FACILITY for inclusion into the system Trauma Registry. Pursuant to the Mississippi Trauma Care System regulations, all trauma care hospitals will agree to provide services to trauma victims regardless of their ability to pay.

V. FINANCIAL ARRANGEMENTS

Other than those stipulated above, neither institution shall assume any responsibility for the collection of any accounts receivable other than incurred as a result of rendering direct services to patients.

VI. NONEXCLUSION

Nothing in this agreement shall be construed as limiting the right of either party to affiliate or contract with any other facility.

VII. RE-TRANSFER/REPATRIATION

At such time as the patient no longer requires the level of care which necessitated the Transfer, the TRANSFERRING FACILITY may, by its attending physician contacting the appropriate physician of the RECEIVING FACILITY, request the retransfer of the patient. The TRANSFERRING FACILITY agrees to reaccept the patient for admission when its medical staff member concurs with the retransfer and approves the readmission. The decision to retransfer the patient shall not be made without the concurrence of the attending physician of RECEIVING FACILITY. The retransfer may include coordinating efforts on the part of both hospitals. TRANSFERRING FACILITY shall make every effort to accomplish the retransfer within twenty four (24) hours and assist with or accept responsibility (including financial) for arranging appropriate transportation. RECEIVING FACILITY shall not assume financial responsibility with regard to patient transportation.

VIII. PERIOD OF AGREEMENT

This agreement will remain in full force and effect from the effective date, indefinitely, unless terminated by either party. If either party wishes to terminate this agreement, they may do so by providing the other sixty (60) days written notice. However, the agreement shall be automatically terminated in the event that either party fails to maintain its licensure or certification as issued by appropriate authorities, or if the ownership of either party is transferred or otherwise altered. Modifications or amendments may be made to the agreement at any time by mutual consent.

IX. COMPLIANCE

As a part of RECEIVING FACILITY's overall compliance program, TRANSFERRING FACILITY shall establish procedures to ensure adherence to all appropriate state and federal statues, including but not limited to Stark Legislation and regulations, False Claims Act, anti-kickback statues Health Insurance Portability and Accountability Act the Balance Budget Act, Medicare and Medicaid statutes and regulations and other third party payer regulations as applicable to this Agreement. All applicable JCAHO standards will also be adhered to. TRANSFERRING FACILITY certifies that neither it nor any of its employees has been excluded from participation in any federally funded program.

X. APPROVAL

In witness whereof, the parties hereto have executed this agreement the day and year first written above.

For: RECEIVING FACILITY	For: TRANSFERRING FACILITY
_____	_____
(Signature)	(Signature)
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

10. Documentation of Participation

Hospitals desiring to participate in the Trauma Region have submitted letters of intent to participate, from hospital administration and from the medical staff. Copies of the letters of participation from each of the member facilities within the Region are attached in the Appendix.

11. Operational Implementation of Policies

From an operational perspective the Region is charged with: injury prevention, public education, work force resource management, provider education, EMS management, prehospital guidelines, communications, promulgation of trauma facility guidelines, standardized interfacility transfer procedures and agreements, data collection and management systems, and ongoing performance improvement evaluation.

The goal of injury prevention will be achieved through public education and legislation. Public education will be necessary to inform the public about the trauma system, its activation and use.

Effective EMS management, promulgation of prehospital protocols and procedures and communication linkages is necessary in achieving prompt and effective prehospital care, from first responders to rescue squads to public and private ambulance services. Much of the Central Region lies within the area served by the Central Mississippi Emergency Medical Services District (CMEMSD), which provides its member EMS agencies off-line medical direction and administers on-line medical direction through the University of Mississippi Medical Center at Jackson.

Promulgation of trauma facility guidelines, along with standardized transfer procedures and agreements will assure standardization of care in and among treatment facilities.

A well-designed program of data collection and management will provide indicators and feedback for continuing training and education, prevention and public education efforts. The State and Regional Registry data will also enable ongoing evaluation of clinical, operational and administrative components, for continuing performance improvement.

The following General Policies are addressed in this Regional Trauma Plan:

- System Organization and Management
- Trauma Care Coordination within the Region
- Trauma Care Coordination with Neighboring Regions
- Criteria for Activation of Trauma Team
- Availability of Trauma Team Personnel and Equipment
- Integration of Pediatric Hospitals
- Coordination of Transportation
- Aeromedical Transport
- System Evaluation and Performance Improvement
- Data Collection and Management
- Professional and Staff Training
- Public Information and Education
- Injury Prevention Programs
- Research

12. Description of Critical Care Capability within Region

Critical Care Capability within the Region is currently being assessed through a System Inventory and Hospital Inventories being completed within each participating hospital in the Region. This will be an ongoing process; current efforts involve assessment and maintenance of facilities' existing capabilities, with continuous efforts at development and improvement of their critical care capabilities.

Trauma Centers
The Central Region contains one Level I Trauma Center, one Level III facility, and ten Level IV facilities.

Availability of Specialty Care
The sole specialty center receiving patients from the Central Region is the Burn Center located in Greenville, Mississippi. The transfer of burn patients is accomplished according to existing criteria established by that facility. Transfer may be coordinated through the medical control authority at the University Medical Center, and may be accomplished via that facility's aeromedical unit.

Pediatric Facility
Pediatric trauma patients are currently evaluated in the receiving emergency room; however, most are transferred, particularly neuro-pediatric patients, to the Region's Level I trauma center.

Rehabilitation
Most patients are transferred to Mississippi Methodist Rehabilitation Center in Jackson, Mississippi. Transferring facilities will be expected to execute formal agreements with MMRC during FY 2004.

Non-Participating Hospital Bypass
Non-participating hospitals continue to receive patients commensurate with their resources and capabilities according to historical transfer patterns. . However, as this Trauma Plan is developed and implemented, facilities will be required to transfer patients to facilities with specified and verified capabilities and resources. Continued transfer to non-participating facilities will require the participation of those facilities, or it could prompt bypass of those facilities for trauma patients

13. Performance Improvement Processes

Performance Improvement is the key to monitoring, evaluating and improving the trauma system. It involves a continuous multidisciplinary effort to measure, evaluate and improve both the process of care and the outcome. A major objective of PI is to reduce inappropriate variation in care. Trauma centers at all levels, EMS services, and the regional system itself, are expected to demonstrate a clearly-defined PI program.

All Trauma Centers shall develop and have in place a performance improvement process focusing on structure, process and outcome evaluations which focus on improvement efforts to identify root causes problems, intervene to reduce or eliminate these causes, and take steps to correct the process. In addition, the process shall include:

(a) a detailed audit of all trauma-related deaths, major complications and transfers (including interfacility transfers);
(b) a multidisciplinary trauma peer review committee that includes all members of the trauma team
(c) participation in the trauma system data management system
(d) each trauma center shall have a written system in place for the following:
patients (children)
parents of minor children who are patients
legal guardian(s) of children who are patients
primary caretaker(s) of children who are patients
(e) the ability to follow-up on corrective actions to ensure performance improvement activities

The system shall provide for input and feedback from these patients and guardians to hospital staff regarding the care provided. (*Mississippi Trauma Care System Regulations,* Section IX.)

The Region is responsible for ongoing evaluation of its system. Accordingly, the Region will develop a procedure for receiving information from EMS providers, Trauma Centers and the local medical community on the implementation of various components of the Region's Trauma System, including, but not limited to: (1) components of the Regional Trauma Plan, (2) triage criteria and effectiveness, (3) activation of trauma team, (4) notification of specialists and (5) trauma center diversion. (*MTCSR*, §VIII. 8.1)

The Region's Performance Improvement process will first evaluate its implementation of its own Trauma Plan. Component implementation to be evaluated will include: system organization & management, trauma care coordination within the region, trauma care coordination with neighboring regions, data collection and management, coordination of transportation, integration of pediatric hospitals, availability of trauma center equipment, availability of trauma team personnel, criteria for activation of trauma team, mechanism for prompt availability of specialists, performance improvement and system evaluation, training of prehospital personnel, public information and education, lay and professional education, and public injury prevention programs. The Region will utilize the Regional Registry in the PI process to evaluate implementation of triage criteria and its

effectiveness, activation of trauma team, notification of specialists and trauma center diversion.

Based upon information received by the Region in the evaluation process, the Region shall annually (or as often as is necessary to insure system performance) prepare a report containing results of the evaluation and a performance improvement plan. Such report shall be made available to all EMS providers, Trauma Centers and the local medical community.

The Region shall ensure that all Trauma Centers participate in this annual evaluation process, and encourage all other hospitals that treat trauma patients to do likewise.

Specific information related to an individual patient shall not be released. Aggregate system performance information and evaluation will be available for review. (*MTCSR*, §VIII. 8.2)

14. Regional Board General Policies

Corporately, the Region is governed according to Corporate Bylaws. The Board of Directors has promulgated additional policies, which are contained in Section 15 of this Plan; as well as personnel policies and procedures, copies of which are on file at the Regional office.

Central Mississippi Trauma Region

Section 1:

REGIONAL POLICIES

1. **System Organization and Management**
2. **Trauma Care Coordination within the Region**
3. **Trauma Care Coordination with Neighboring Regions**
4. **Criteria for Activation of Trauma Team**
5. **Availability of Trauma Team Personnel**
6. **Integration of Pediatric Hospitals**
7. **Coordination of Transportation**
8. **Aeromedical Transport**
9. **System Evaluation and Performance Improvement**
10. **Data Collection and Management**
11. **Professional and Staff Training**
12. **Public Information and Education**
13. **Injury Prevention Programs**
14. **Research**

Central Mississippi Trauma Region

Subject: System Organization and Management

Purpose: To provide organizational structure and administrative command and control for the Central Mississippi Trauma Region.

Policy: The Central Mississippi Trauma Region shall develop and maintain operations for the trauma program in the geographic region delegated by the State Department of Health.

A. The Central Mississippi Trauma Region is comprised of the following counties: Attala, Claiborne, Copiah, Hinds, Holmes, Jefferson, Leake, Madison, Rankin, Scott, Simpson, Smith, Warren and Yazoo. Each participating facility within the geographic confines of the region shall declare its intention to participate in the Trauma System, and shall have representation on the Regional Board of Directors, and on the Regional Advisory Council.

B. The region shall incorporate as a Mississippi not-for-profit corporation, under the direction of a board of directors, according to regional Bylaws.

C. The Central Mississippi Trauma Region's voting membership shall consist of the geographically eligible hospitals participating in the Mississippi State Trauma Care System. Participating hospitals must be certified trauma centers.

D. Additional members may participate on a non-voting status upon approval of the regional board.

E. The regional board shall develop and maintain a trauma plan in accordance with the requirements established by the Mississippi Department of Health.

F. The regional board shall appoint some person or entity that shall have administrative authority over the daily operations of the Central Mississippi Trauma Region. The Region may retain administrative staff to oversee the day-to-day activities of the Region, promulgate administrative policies and procedures, and oversee development of the Region's Trauma Plan

G. Voting and non-voting members shall participate in the Central Mississippi Trauma Region as specified in the board's bylaws and other policies.

H. Each voting member shall develop and maintain a Mississippi Department of Health certified trauma program.

I. The medical activities of the Region are overseen by the Regional Medical Director.

J. All information submitted from voting and non-voting members to Central Mississippi Trauma Region shall be considered proprietary. Member organizations shall not use region's proprietary information for individual organization gain.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Trauma Care Coordination within the Region

Purpose: To establish and maintain cooperation among the agencies participating in the regional trauma plan.

Policy: The Central Mississippi Trauma Region shall develop and maintain a system designed to facilitate cooperation among the agencies participating in the regional plan.

A. The system shall provide for regional medical control to include criteria for activation of the trauma team. Regional medical control shall be in the form of cooperating individual participant hospitals. Regional medical control shall provide for
   1. Criteria for bypass
   2. Criteria determining a hospital's level of trauma team activation
   3. Survey to determine capabilities of region's ability to provide trauma care

B. The system shall require the Central Mississippi Trauma Region to develop a transfer agreement for use among the participating hospitals located in the region.

C. Hospitals shall develop and provide to the Central Mississippi Trauma Region their individual trauma plans and team activation procedures.

D. All agencies shall report to the Central Mississippi Trauma Region their clinical and operational capabilities regarding trauma care. This is to include but is not limited to facilities, medical specialties and communication capabilities.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Trauma Care Coordination with Neighboring Regions

Purpose: To provide the mechanism for coordinating trauma care between the Central Mississippi Trauma Region and other regions located in Mississippi.

Policy: The Central Mississippi Trauma Region will facilitate the establishment and maintenance of agreements between the participating hospitals and EMS agencies of the Central Mississippi Trauma Region and those participating facilities and EMS agencies of neighboring and other regions.

A. Trauma centers shall establish and maintain transfer agreements approved by the Mississippi Department of Health.

B. Each EMS agency, including hospital based agencies, shall attempt in good faith to establish mutual aid agreements with all adjacent EMS agencies.

C. The Central Mississippi Trauma Region shall maintain contact with neighboring trauma regions and the State Department of Health to monitor the status of and changes to the Mississippi Trauma Care System and regions. The Central Mississippi Trauma Region shall incorporate any Mississippi Trauma Care System changes and consider changes in other region's plans into the Central Mississippi Trauma Region 's Performance Improvement Plan.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Criteria for the Activation of the Trauma Team

Purpose: To provide hospitals in the Central Mississippi Trauma Region with guidelines for the activation of their respective trauma systems.

Policy: All participating hospitals in the Central Mississippi Trauma Region shall establish criteria for the activation of their respective trauma systems. These criteria win be clearly noted in each institution's trauma policy. The following is intended to serve as a general guideline for the hospitals as each hospital within the Central Mississippi Trauma Region is unique.

Procedure

A. Immediate activation of the trauma system (Full Trauma Resuscitation)

1. Glasgow Coma Scale (GCS) <10
2. Systolic Blood Pressure <90 mm Hg
3. Respiratory Rate <10 or >29
4. Revised Trauma Score <11
5. Pediatric Trauma Score <9
6. Penetrating injury to the head, neck, torso, or extremities above the elbows or knees
7. Flail chest
8. Two or more proximal long bone fractures
9. Pelvic fracture
10. Limb paralysis
11. Amputation proximal to the wrist or ankle
12. Body surface bums >5% (second or third degree) or burns associated with other traumatic or inhalational injury
13. Trauma transfer that is intubated or receiving blood,
14. Children under 12 with any of the historical flats outlined below

B. If none of the above apply, evaluate mechanism (Stable patient >12 years old)

1. Ejection from vehicle
2. Death in same passenger compartment
3. Extrication time >20 minutes
4. Rollover NWC
5. High speed auto crash >40 mph
6. Auto deformity >20 inches of external damage or intrusion into passenger compartment >12 inches
7. Auto vs. pedestrian or auto vs. bicycle (>5 mph)
8. Pedestrian thrown or run over
9. Motorcycle crash >20 mph or separation of rider from the bike

If yes to any of the above, the attending ER physician may, at his own discretion and medical judgment, activate a full trauma code or activate a modified trauma activation.

C. All prehospital providers shall implement a policy approved by the Central Mississippi Trauma Region for the early notification of Trauma Centers of the impending arrival of a trauma patient.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Availability of Trauma Center Personnel and Equipment

Purpose: To ensure regulatory compliance with Mississippi Trauma Care System requirements regarding the availability of resources.

Policy: All participating hospitals in the Central Mississippi Trauma Region shall comply with Mississippi Trauma Care System requirements by maintaining a constant state of readiness consistent with their level of certification.

A. All hospitals shall have a designated trauma team consisting of physicians, specialists, nursing, and clinical ancillary personnel which should be either present or on-call and promptly available. Emergency department physicians must always be present in Level I, II and III hospitals and be available to Level IV hospitals.

B. Facilities at each level shall develop written policies describing the roles of all personnel on the trauma team, the availability of team members, and certification requirements for team membership. These policies shall comply with the requirements for trauma teams at each level, as set forth in the *Mississippi Trauma Care System Regulations.*

C. All facilities shall have a designated system for alerting and ensuring response times of appropriate staff. Methods of activation may include but are not limited to cell phones, pagers, two-way radios, or maintaining on-call staff on premises. Response times shall be documented and provided to the Region. (See Data Collection and Management). . In some facilities, a tiered response may be appropriate. Suggested compositions of the trauma teams in each level facility are set forth in the respective sections of the *Mississippi Trauma Care System Regulations.*

D. Surgeons, orthopedic surgeons, anesthesiologists, radiologists, neurosurgeons, and emergency medicine physicians must be appropriately boarded or fulfill alternate criteria per Mississippi guidelines. As required by the *Regulations*, the director of the emergency department, along with the facility's trauma director, shall establish trauma-specific credentials that should exceed those that are required for general hospital privileges. Examples of credentialing requirements would include skill proficiency, training requirements, conference attendance, education requirements, ATLS verification and specialty board certification. Physicians shall maintain adequate CEUs, and general surgeons and emergency medicine physicians should additionally be certified in ATLS within three to five years. CRNAs must be licensed to practice in the State of Mississippi.

E. Each facility shall have written protocols for notification of specialists. Availability of specialists should be regularly inventoried, and on-call schedules shall be maintained to ensure coverage. The emergency medicine physician is responsible for notifying specialists based on predetermined response protocols. The ED physician will provide leadership and care for the trauma patient until arrival of the specialist in the resuscitation area.

F. Each facility shall have available all necessary equipment to carry out the clinical components prescribed for the level at which the facility is certified. All equipment used in trauma care shall be in working order, adequate for need and level, and meet appropriate current FDA requirements for patient care. Each facility should designate appropriate personnel to conduct periodic inventories of equipment to ensure continuing compliance.

G. Hospitals experiencing a temporary loss of equipment capability due to failure or repair shall arrange for replacement of equipment and/or proactively arrange for patient transfer or bypass as deemed necessary by that hospital's medical control.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Integration of Pediatric Hospitals

Purpose: To provide for pediatric trauma care.

More children die from injury than from all other causes combined. The societal impact of intentional and unintentional injury is staggering, and the effect of pediatric injury in terms of lost human potential, cost to society, and impact on families is especially overwhelming.

Effective care of the injured child requires an inclusive approach which recognizes injury as a major pediatric health problem, identifies effective strategies for prevention, improves systems of emergency care for children, and provides the most appropriate care available. Injured children require special resources which should be available at a trauma center dedicated to the care of injured children. However, because of the limited number and geographic distribution of children's hospitals, all injured pediatric patients cannot be cared for in these institutions. Therefore, other institutions must be available to provide this resource to the community and trauma care system.

Policy: The Central Mississippi Trauma Region shall integrate pediatric hospitals into the regional system.

A. All designated trauma centers shall maintain a transfer agreement with a pediatric trauma center.

B. Each facility shall arrange for transfer according to the agreement.

C. Certain components must be present in any facility which cares for injured children. The traumatized pediatric patient has special requirements that go beyond the resources required for an adult trauma center. All adult trauma centers are required to function at one of the three levels of pediatric trauma care: tertiary, secondary and primary. The components which must be present in a trauma center designated to care for pediatric patients are set forth in the *Mississippi Trauma Care System Regulations.* (*MTCSR* §XVI. 16.2)

D. At tertiary and secondary levels, trauma centers should credential their trauma surgeons to do pediatric trauma care. It is desirable that the primary level trauma center credential its trauma surgeons to do pediatric trauma care. (*MTCSR* §XVI. 16.2)

E. The Central Mississippi Trauma Region shall facilitate and encourage the pediatric trauma center to provide educational and preventative information resources into the region's training, educational, and preventative services.

F. The triage criteria set forth in "Guidelines for Prehospital Management", are designed to identify those patients at greatest risk for death or disability and who

should be considered for expeditious transfer to Level I or II trauma centers. Referral to these centers must be protocol driven and continuously monitored by the performance improvement process. Access to such care must be expeditious and must reflect *only* medical need.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Coordination of Transportation

Purpose: The purpose of this is to provide guidance regarding the transportation of trauma patients.

Policy: Trauma centers and EMS agencies shall cooperate to effectively transport a trauma patient to the appropriate trauma center.

A. The regional trauma system shall be activated through current methodology to include 911, *HP, or direct phone contact with a hospital.

B. Local ambulance provider(s) shall be dispatched to scene under authority of provider's medical control.

C. Local medical control shall direct ambulance provider to nearest appropriate trauma center and communicate necessary information to receiving trauma center if different facility

D. Trauma center shall activate their response mechanism and facilitate transfer (if needed) to nearest appropriate higher-level facility. The method of transfer (air, ground) shall be determined by the provisions set forth in the transfer agreement and patient needs.

E. All trauma patient transport vehicles shall conform to the rules and regulations of the Mississippi State Department of Health.

F. Individuals with identifiable injuries and combinations of injuries and injury mechanisms which result in high mortality should be considered for early transfer after initiation of appropriate resuscitation efforts. See Table, “Criteria for Consideration of Transfer”. These criteria are intended to prompt consideration for transfer and are not inclusive or hospital-specific.

G. The decision to transfer an injured patient to a specialty care facility in an acute situation should be based solely on the needs of the patient and not on the requirements of the patient’s specific provider network (PPO, HMO, AHP, etc.) or the patient’s ability to pay. The subsequent decisions regarding transfer to a facility within a managed care network should be made, after stabilization, by the patient, family, and the responsible trauma surgeon.

H. Federal legislation (COBRA) imposes civil penalties on individual practitioners and hospitals who fail to provide emergency care in a timely fashion Additional elements in COBRA legislation relative to the obligations of the referring physician and facility include:
   1. Identify a facility with available beds and personnel before beginning the transfer.

2. Do not transfer unstable patients, except for medical necessity
3. Provide appropriate transportation with a vehicle augmented with life-support equipment and staff to meet the anticipated contingencies which may arise during transportation
4. Send all records, including test results and X-rays, with the patient to the referring facility unless delay would increase the risks of transfer; then, send the information as soon as possible. Once the need for transfer is recognized, arrangements should be expedited and not delayed for diagnostic procedures that do not change the immediate plan of care.
5. Issue a physician transfer certificate and consent for transfer to accompany the patient

I. Receiving hospitals also have obligations under COBRA. Facilities which have entered into Medicare provider agreement who have specialized capabilities or facilities are obligated to accept the appropriate transfer of an individual requiring such services if the hospital has the capacity to treat them.

J. Guidelines for Transferring Patients:

1. Transferring Physician Responsibilities
   a. Initiate the transfer process by direct contact with the receiving surgeon
   b. Initiate resuscitation measures within the capabilities of the facility
   c. Determine the appropriate mode of transportation on consultation with the receiving surgeon or physician
   d. Transfer all records, results and X-fays to receiving facility

2. Treatment Prior to Transfer
   The patient should be resuscitated and attempts made to stabilize his or her condition with respect to ABCDE.

3. Receiving Physician Responsibilities
   a. Ensure resources are available at the receiving facility
   b. Provide advice/consultation regarding specifics of the transfer or additional evaluation/resuscitation prior to transport
   c. Once transfer of the patient is established, clarity and identify medical control
   d. Identify a PI process for transportation, allowing feedback from the receiving physician to the transport team directly or at least to the medical direction of the transport team.

4. Management During Transport
   During transport, continued management of vital functions and continuous reevaluation are essential:
   a. Qualified personnel and equipment must be available during transport to meet anticipated contingencies
   b. Sufficient supplies must accompany the patient during transport, such as IV fluids, blood, and medications as appropriate

c. Vital functions should be frequently monitored
d. Vital functions should be supported; for example, hemodynamics, ventilation, central nervous system, and spinal protection
e. Records should be kept during transport
f. Communication must be kept with on-line medical direction during transport

5. Information to Accompany Patient
Information concerning the patient's condition and needs during transport should be communicated to transporting personnel. A written record containing the following information should accompany the patient:
a. Available patient demographic information
b. Name of next of kin
c. Information concerning nature of injury event, time of occurrence, and prehospital care (run report)
d. Summary of evaluation and care provided at transferring facility, including results of diagnostic tests, X-rays obtained, injuries identified, patient's response to treatment, amount of fluids and blood infused, and chronologic record of vital signs, and urinary output.
e. Other helpful information, including medical history, current medications, medications/immunizations administered, and allergies
f. Name, address and phone number of referring physician, in case additional details are needed.
g. Name of the physician who accepted the patient at the receiving hospital

K. Criteria for Consideration of Transfer: see Prehospital Protocols: Transfers; Coordination of Transportation

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Aeromedical Transport

Purpose: The purpose of this is to provide guidance regarding the aeromedical transport of trauma patients.

Policy: Trauma centers and aeromedical transport programs shall cooperate to effectively transport trauma patients to the appropriate trauma center.

A. As a specialized transport service providing statewide service, the UMC helicopter is considered a Regional Resource, and shall adhere to the Region's policies and procedures for transport between transferring and receiving facilities within the Region.

B. Prehospital aeromedical providers shall have a structured air medical safety program in place to guide prehospital personnel in establishing a safe landing site, proper loading procedures, communications with pilots and medical personnel, and safe procedures in proximity to an operating helicopter.

C. Medical flight crews shall have a structured air medical educational curriculum and an ongoing performance improvement program.

D. Procedures for requesting, dispatch and response of air transport shall be according to policies established by the aeromedical service. In cases where it is appropriate to transport a patient to a community hospital, the paramedic may request the launch of the UMC helicopter to a community hospital prior to or during transport of the patient to that hospital.

E. Facilities utilizing helicopter transport services shall establish and maintain safe and appropriate landing zones on or near their hospital campuses. Landing areas may be subject to safety inspections, and facilities should be prepared to make changes as recommended.

F. For situations where a helicopter is dispatched to a hospital landing area for direct loading of patients from ambulance to helicopter, or should policies permit scene flights or dispatch to pre-arranged landing zones, safety procedures shall be established to ensure the appropriateness and safety of landing areas, scene safety and security, and other procedures for safe and appropriate patient handling and management.

G. A training program shall be developed by the aeromedical service to enable the safe landing of aircraft, safe and efficient loading of patients, and safe departure of the aircraft. This program should involve all personnel who could expect to assist in such situations: law enforcement/security, ED personnel, EMS, fire/rescue, etc.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: System Evaluation and Performance Improvement

Purpose: To improve performance of the system.

Policy: The Central Mississippi Trauma Region shall review and evaluate the regional trauma care system to improve performance.

A. Performance improvement will occur at several levels; at the trauma system level, at each trauma center, at the prehospital level, and as part of research activities.

B. The Region will develop a procedure for receiving information from EMS providers, Trauma Centers and the local medical community on the implementation of various components of the Region's Trauma System, including, but not limited to: (1) components of the Regional Trauma Plan, (2) triage criteria and effectiveness, (3) activation of trauma team, (4) notification of specialists and (5) trauma center diversion.

C. Each trauma center shall participate in the statewide trauma registry.

D. Each trauma center must develop an internal PI plan that minimally addresses the following key components:

1. A multi-disciplinary trauma committee
2. Clearly defined authority and accountability for the program
3. Clearly stated goals and objectives, one of which should be the reduction of inappropriate variation in care
4. Development of expectations from evidenced based guidelines, pathways and protocols
5. Explicit definitions of outcomes derived from institutional standards
6. Documentation system to monitor performance, corrective action, and the results of the actions taken
7. A process to delineate privileges credentialing all trauma service physicians
8. An informed peer review process utilizing a multi-disciplinary method
9. A method for comparing patient outcomes with computed survival probability
10. Autopsy information on all deaths when available
11. Medical nursing audits
12. Reviews of pre-hospital care, and times and reasons for both trauma bypass and trauma transfers

E. The Central Mississippi Trauma Region shall collect and report data to the state and to participating hospitals. (See Data Collection and Management)

F. The Central Mississippi Trauma Region shall evaluate and review the following for effectiveness:
   1. The components of the regional system
   2. Triage criteria and effectiveness
   3. Activation of the trauma team
   4. Notification of specialists and ancillary personnel
   5. Trauma center diversions and transfers

G. The Central Mississippi Trauma Region shall develop a performance improvement process that identifies root causes of problems and provides for continuous improvement of the system. The performance improvement process shall provide for input and feedback from patients, guardians (pediatrics), and provider staff.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Data Collection and Management

Purpose: To provide a framework for collecting, recording and utilizing data for purposes of trending, root cause analysis, and performance improvement.

Policy: The Central Mississippi Trauma Region shall collect and report all necessary data as required by the Mississippi Department of Health. The Region shall also provide regular reports to the participating facilities.

A. All Trauma Centers within the Central Region shall participate in the Trauma Care Region data collection effort in accordance with the Region's policies and procedures.

B. All participating facilities shall report data and trending reports to the Central Mississippi Trauma Region no less frequently as semi-annually.

C. The Central Mississippi Trauma Region shall provide an annual report to the participating agencies and to the State Department of Health as necessary.

D. Data collected shall be used for performance improvement and system evaluation and shall include but is not limited to:

1 Time flow data from reception of 911 to arrival at final destination
1. Mechanism of injury
3. Geographic location of injury and location of regional and final destination
4. Circumstances contributing to injury
5. Diagnosis Codes
6. Number of trauma deaths and transfers to include reason(s) for each

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Professional and Staff Training

Purpose: To provide guidelines regarding the training pf participants' healthcare providers in the care of trauma patients.

Policy: The Central Mississippi Trauma Region shall facilitate the provision of training opportunities for participating facilities and prehospital providers. Individual hospitals and physicians must maintain clinical qualification as specified by the Mississippi Trauma Care System Regulations.

A. As specified by level designation, hospital staff is defined as nurses, allied health, and employed pre-hospital personnel.

B. All personnel functioning at the BLS or ALS level receiving medical control through a licensed prehospital provider in the Central Mississippi Trauma Region fall within the operational guidelines of the Central Mississippi Trauma Region.

C. The Central Mississippi Trauma Region shall transfer any provided information regarding trauma triage guidelines and operational procedural changes associated with trauma care to all participating hospitals and EMS providers located in the Region to maintain their current state of readiness. This may be through any means deemed appropriate by the board.

D. All prehospital emergency medical care personnel rendering trauma patient care within the Central Mississippi Trauma Region shall be trained in the local trauma triage and patient care methodology.

E. Individual facilities and providers are responsible for disseminating the information to their staff. The Central Mississippi Trauma Region shall assist with the coordination and promotion of any multi facility educational sessions on trauma care.

F. The Central Mississippi Trauma Region shall provide training to hospital staff and prehospital providers on its trauma policies and procedures.

G. Trauma surgeons and emergency room physicians are required to maintain ATLS and a yearly average of 16 hours (48 over three years) of CMEs as specified by hospital level and clinical specialty in the Mississippi Trauma Care System Regulations.

H. The Central Mississippi Trauma Region shall relay any information regarding educational opportunities for physicians, nurses, and prehospital providers to the participating facilities and providers.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Public Information and Education

Purpose: To provide a format for informing and educating the general public residing in the Central Mississippi Trauma Region and to provide regulatory oversight for the trauma-related public outreach and education conducted by the agencies participating in the trauma plan.

Policy: The Central Mississippi Trauma Region shall develop and maintain a program of public information and education. Participating agencies shall cooperate with the Central Mississippi Trauma Region regarding the promotion of their trauma programs.

A. The Central Mississippi Trauma Region shall establish a network among its participating and other providers for the purpose of providing educational materials. The participating hospitals and other providers shall provide the informational and educational materials to the general public through any means deemed acceptable to the regional board.

B. The Central Mississippi Trauma Region shall facilitate speakers, address public groups and serve as a resource for trauma education.

C. The Central Mississippi Trauma Region shall assist its participating agencies in the development and provision of education to the public regarding the topics of injury prevention, safety education, and access to the system.

D. No health care facility shall advertise in any manner or otherwise hold itself out to be a Trauma Center unless they have been so designated by the Department in accordance with the Mississippi Trauma Care Regulations.

E. No provider of prehospital care shall advertise in any manner or otherwise hold itself out to be affiliated with the trauma system or a Trauma Center unless the provider of prehospital care has been so designated by the Department in accordance with the Mississippi Trauma Care Regulations.

F. No participating agency shall use the terms "trauma center, trauma facility, trauma care provider" or similar terminology it its signs, printed material or public advertising unless the material meets the requirement of the Mississippi Trauma Care System Regulations as set forth in Mississippi Code Annotated 41-59-1.

G. No participating agency may represent that any trauma-related public education program is conducted under the auspices or sponsorship of the Central Mississippi Trauma Region without the express written approval of the Region’s Executive Director or Education Committee.

H. All marketing and promotional plans relating to the trauma program shall be submitted to the Central Mississippi Trauma Region for review and approval, prior to implementation. Such plans shall be reviewed and approved based on the following guidelines:

1. The information is accurate
2. The information does not include false claims
3. The information is not critical of other system participants
4. The information shall not include any financial inducements to any providers or third parties.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Injury Prevention Programs

Purpose: To provide a format for the Central Mississippi Trauma Region's participation in injury prevention activities.

Policy: The Central Mississippi Trauma Region shall participate in injury prevention activities.

A. The Central Mississippi Trauma Region shall participate in injury prevention activities.
   1. If desired, each facility may request assistance from the Region, in writing, at least one month before commencement of the class or event.
   2. Assistance may consist of, but not be limited to, promotion, research, and acquisition of speakers.
   3. Financial assistance from the Central Mississippi Trauma Region may be provided by Board Resolution only. Individual facilities are otherwise financially responsible for their activities.
   4. No participating agency may represent that any trauma-related injury prevention program is conducted under the auspices or sponsorship of the Central Mississippi Trauma Region without the express written approval of the Region's Executive Director or the Region's Injury Prevention Committee

B. The Central Mississippi Trauma Region shall facilitate and encourage the coordination of injury prevention activities with other regions.

C. Each participating facility shall be encouraged to provide at least one injury prevention activity per year.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Subject: Research

Purpose: To provide a format for the Central Mississippi Trauma Region's participation in and sponsorship of research activities.

Policy: The Central Mississippi Trauma Region shall participate in research activities.

A. The Region shall encourage research to enhance perpetual study, redirection and improvement of injury surveillance and epidemiology, prevention, treatment and rehabilitation, financial studies (e.g., cost effectiveness and reimbursement issues), ethical, moral and legal dilemmas facing trauma care, and system organization, and ultimately, trauma patient outcome.

B. Subject to availability of funding, the Region should financially support research activities. At the discretion of the Board of Directors, the Region may make application for grants and other sources of funding for research conducted by appropriate entities within the Region.

C. Access should be assured to system providers for individual, regional or statewide projects that enhance trauma patient care.

D. The Region shall develop policies for financial support and administrative review of proposed grant projects.

Approved by the Board of Directors on July 17, 2003.

Central Mississippi Trauma Region

Section 2:

PREHOSPITAL TRAUMA PROTOCOLS

CONTENTS

I. Guidelines for Prehospital Management of Trauma Patients

The purpose of this policy is to provide EMS Agencies operating within the Central Trauma Region with general guidelines for prehospital triage and transport of the trauma patient.

1. Activation of Regional Trauma System

A. The following criteria are recommended minimum guidelines for activation of the Regional Trauma System. These criteria were adopted by the Central Trauma Care Region as general guidelines for activation of the Trauma Center Trauma Team and should therefore be used as a tool in identifying the major or multiple-injury trauma patient and in activation of the Trauma Center Trauma Team. Trauma Centers may adopt more liberal criteria; these guidelines are to be considered as minimum criteria for Trauma Team activation, and some activation must occur for the following injuries:

1. Glasgow Coma Scale. (GCS) <14
2. Systolic Blood Pressure <90 mm Hg
3. Respiratory Rate< 10 or >29
4. Penetrating injury to the head, neck, torso, or extremities above the elbows or knees
5. Flail chest
6. Two or more proximal long bone fractures
7. Pelvic fracture.
8. Limb paralysis
9. Amputation proximal to the wrist or ankle
10. Body surface burns> 15% (second or third degree) or burns associated with other traumatic or inhalation injury
11. Trauma transfer that is intubated or receiving blood
12. Children under l2 with any of the historical flats outlined below

- If none of the above apply, evaluate mechanism (Stable patient> 12 year. old)

1. Ejection from vehicle
2. Death in same passenger compartment
3. Extrication time> 20 minutes
4. Fall >20 feet
5. Rollover MVC
6. High speed auto crash>40mph
7. Auto deformity >20 inches of external damage or intrusion into passenger compartment >12 inches
8. Auto vs. pedestrian or Auto vs. bicycle (>5mph)
9. Pedestrian thrown or run over
10. Motorcycle crash > 20 mph or separation of rider from the bike

2. General Approach to Assessment and Management of the Trauma Patient

Management of the seriously injured trauma patient is notably different from management of the medical patient. Definitive treatment is generally available only in the surgery suite. The goals of patient care are to stabilize immediate life threats to the extent possible and-to deliver the patient to a facility where surgical treatment can be provided.

A. Scene times should be limited to 10 minutes or less in cases where multisystem or internal trauma is evident or suspected.
B. Extenuating circumstances will obviously extend this limit (e.g. multiple patients, entrapment, hazardous materials, etc.) In those cases scene time should be minimized as much as possible.
C. Patients presenting with localized injury limited to extremities and not involving circulatory or neurologic compromise should have their injuries stabilized carefully prior to transport. Pain management should be considered a priority in cases of isolated extremity trauma when pain is moderate-severe and where no contraindications exist.

3. General Treatment Guidelines for Trauma Patients

A. Perform primary and secondary assessment before patient movement unless scene hazards dictate otherwise.
B. Correct airway and oxygenation problems promptly and monitor vital signs every 5 minutes or as frequently as resources allow.
C. Immobilize the spine as part of primary survey if appropriate.
D. For critical trauma patients or patients with a potential for deterioration, the ABCs should be assessed and managed where the patient is found. Other stabilizing procedures, including the starting of IVs, should be performed enroute to the hospital
E. Perform complete secondary survey prior to management of non-life threatening injuries.
F. Immobilize and splint possible fractures prior to movement unless there is an urgent reason to delay.
G. Manage more serious injuries before less serious ones (unless logistic reason for re-ordering priorities).
H. Anticipate unstable conditions requiring immediate transport.
I. Dress wounds if time and resources allow.
J. IV lines
    1. IV fluids have minimal effect on the mortality rate of critical trauma patients. IV fluids run in rapidly tend to dilute the blood and reduce oxygen carrying capacity.
    2. IVs should be started enroute except in cases of entrapment or multicasualty incidents.
    3. Fluid should be infused at a rate to maintain a minimally acceptable blood pressure. For most patients a systolic level of 80-90 mm/hg is adequate.

4. Selection of a hospital destination

Trauma patients with the following conditions should be transported to the closest appropriate hospital:

- Cardiac Arrest
- Non-patent airway
- Hemodynamic compromise indicated by deteriorating vital signs

Patient and or family request will be considered; however, hospital selection is determined by the EMS Provider and on-line Medical Control according to these guidelines and is based entirely in the best medical interest of the patient.

If the Paramedic/EMT has any doubt as to whether a patient is a major trauma victim, he/she should consult with Medical Control at the earliest stage possible in the patient's evaluation.

Patients should be transported directly to the nearest hospital capable of managing their emergency condition. In cases of severe trauma (RTS less than 11) this generally means a Level I or Level II Trauma Center. In cases where a patient is unstable and where a Level 111/IV hospital is much nearer than a Level 1/11 hospital, the patient may benefit from initial stabilization at the Level Ill/IV hospital.

For patients with a RTS of less than 11:

1. The patient should be transported directly to the nearest Level I/II Trauma Center.
2. If transport time directly to the Level I/II Trauma Center will increase transport time by more than 10 minutes, the patient should be transported to the nearest Level III/IV hospital for initial stabilization prior to transport on to a Level I/II hospital.
3. The use of an EMS helicopter for transport of critical trauma patients may be beneficial. In cases where it is appropriate to transport a patient to a community hospital, the paramedic may request the launch of the UMC helicopter prior to or during transport of the patient to the local hospital.

5. Multiple Patients/Triage

In cases where there are more patients than responding medical personnel, the first step of management is triage.

A. The first or senior paramedic on scene is the triage officer.

B. The triage officer should not participate in patient care until after all patients have been triaged.

C. The S.T.A.RT. (Simple Triage and Rapid Treatment) method should be utilized. The steps are:

1. Clear the scene of walking wounded. Direct them to a designated area nearby. These persons will be further assessed when additional medical personnel arrive and after more seriously injured patients have been cared for.

2. Rapidly triage all remaining patients in 3 steps:
   a. Ventilation-if ventilation is inadequate, clear the airway. After clearing the airway the patient is categorized into one of 3 categories:
      (1) No respiratory effort: **Dead/non-salvageable**
      (2) Respirations > 30: **Critical/immediate**
      (3) Respirations < 30: **Delayed**
   b. Perfusion-Check radial pulse.
      (1) No radial pulse: **Critical/immediate**
      (2) Pulse present: **Delayed**
   c. Neurological status
      (1) Unconscious: **Critical/immediate**
      (2) Altered LOC: **Critical/immediate**
      (3) Altered mental process: **Critical/immediate**
      (4) Normal mental responses: **Delayed**

The first assessment that produces a "critical/immediate" category stops further triage assessment of the remaining areas.

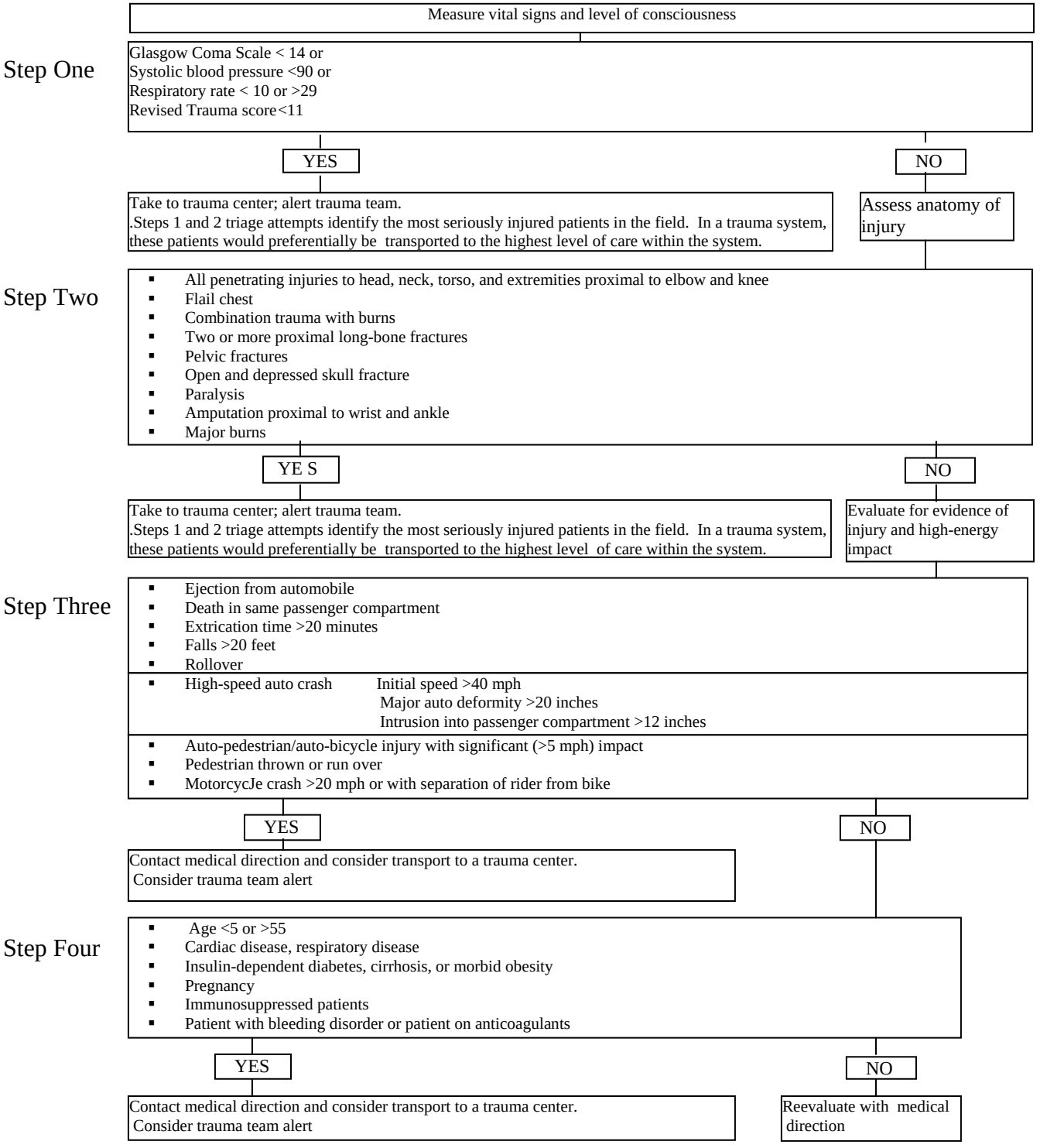
D. Extrication
1. Survey scene for potential hazards, number of patients, general condition of patients.
2. Call for additional medical or technical backup as needed.
3. Responder safety always comes first.
4. The ambulance team should be concerned primarily with patient care.
5. Heavy extrication should be performed by those trained in the technique (generally fire department personnel).
6. Perform primary survey and treat airway difficulties and severe bleeding first.
7. If patient has no pulse or respiration and extrication will be required before the patient can be accessed to begin CPR, he/she should be considered dead.
8. Triage patients as discussed above.
9. Apply cervical collar, immobilize spine prior to extrication.
10. Perform rapid secondary survey and splint extremity fractures if patient condition permits. Transport of critical patients should not be delayed to allow for the management of extremity fractures.
11. Perform or repeat complete secondary survey once patient extricated.

E. Teamwork
1. Team leader should lead, i.e., coordinate and manage scene.
2. Assistants should follow directions of leader unless dangerous.
3. Team should communicate, avoid duplication or overlap, share information.
4. Assistants should anticipate management needs.

F. Over-Triage and Under-Triage

The entire trauma system is driven by the tenet that severely injured trauma patients should be triaged to the appropriate trauma facility. Indecision results in over-triage, as minimally injured patients are transferred to trauma centers, and under-triage, as severely injured patients are taken to non-trauma centers. In general, priority is given to reduction of under-triage, because under-triage may result in preventable mortality or morbidity from delays in definitive care.

FIELD TRIAGE DECISION SCHEME



WHEN IN DOUBT, TAKE TO A TRAUMA CENTER

REVISED TRAUMA SCORE

	Variables	Score	Start of Transport	End of Transport
A. Respiratory Rate	10-29	4		
(breaths/minute)	>29	3		
	6-9	2		
	1-5	1		
	0	0	_____	_____
B. Systolic BP	>89	4		
(mm Hg)	76-89	3		
	50-75	2		
	1-49	1		
	0	0	_____	_____
C. GCS Score	13-15	4		
Conversion	9-12	3		
$C = D + E^1 + F$	6-8	2		
(adult)	4-5	1		
$C = D + E^2 + F$	<4	0	_____	_____
(pediatric)				
D. Eye Opening	Spontaneous	4		
	To voice	3		
	To pain	2		
	None	1	_____	_____
E^1-Verbal Response,	Oriented	5		
Adult	Confused	4		
	Inappropriate words	3		
	Incomprehensible words	2		
	None	1	_____	_____
E^2. Verbal Response,	Appropriate	5		
Pediatric	Cries, consolable	4		
	Persistently irritable	3		
	Restless, agitated	2		
	None	1	_____	_____
F. Motor Response	Obeys commands	6		
	Localizes pain	5		
	Withdraws (pain)	4		
	Flexion (pain)	3		
	Extension (pain)	2		
	None	1	_____	_____
Glasgow Coma Score				
(Total = D + $E^{1/2}$ + F)			_____	_____
REVISED TRAUMA				
SCORE = A + B + C			_____	_____

(Adapted with permission from Champion HR, Sacco WJ, Copes WS, et al: A revision of the Trauma Score. Journal of Trauma 1989; 29(5):624.)

6. Additional Management of the Trauma Patient

For management issues not covered in this document the local EMS agency should adhere to its locally approved medical control plan.

7. Pre-notification of Medical Control

At the earliest possible time after leaving the scene, EMS agencies shall notify the receiving facility of impending arrival of Trauma Patients in order that the receiving facility can determine the number and type of patients they are capable of managing at that time.

All designated Trauma Centers are participants in the Hospital Status System. Each facility shall promptly post changes in its status on the HSS. Any Trauma Center going on or off Diversion shall notify local EMS Dispatch immediately.

EMS Service pre-notification of Central Mississippi Medical Control should include (1) an initial patient descriptor, (2) revised trauma score (3) scene vital signs (4) hospital destination and arrival time. Pre-notification should be done on all patients with RTS<11. (As the necessary equipment becomes available, pre-notification information should be displayed on an LCD located within medical control.) The physician on-call or designee should be separately paged (by pager LCD display) of all patients with RTS<11 for immediate contact of the receiving hospital to determine the need for ground or air ambulance transfer. An ambulance communication form should be completed for these physician contacts

The rationale for pre-notification is to reduce unnecessary emergency department delays in the evaluation of patients who may eventually need a higher level of care. The physician's role is to facilitate transfer or transport where an upgrade determination is made or is anticipated. Such a system will allow for a timed log of all trauma patients in the region with their initial destination.

Where appropriate agreements exist, pre-notification by outside EMS services may also be arranged.

8. Specific Trauma Protocols

- Basic Patient Management Standards
- Cardiac Arrest Secondary to Trauma
- Chest Injuries (Traumatic Respiratory Distress)
- Head Trauma
- Hypotension
- Spine Trauma
- Written Reports

Note: procedures indicated with a (P) are advanced-level procedures, and may be performed only by paramedics or authorized registered nurses.

BASIC PATIENT MANAGEMENT STANDARDS

A. Priority of injuries.
   1. Correct airway and oxygenation problems promptly and monitor vital signs.
   2. Recognize and respond promptly to emergent difficulties.
   3. Recognize and treat the different forms of shock.
   4. Immobilize cervical spine as part of primary survey if appropriate.
   5. Perform complete secondary survey prior to treatment.
   6. Dress wounds.
   7. Immobilize and splint possible fractures prior to movement unless there is an urgent reason to remove patient rapidly from a dangerous situation.
   8. Manage more serious injuries before less serious ones (unless logistic reason for re-ordering priorities).
   9. Anticipate unstable conditions requiring immediate transport.
   10. Rapid transport is an essential element of field trauma care. The goal when managing a seriously injured trauma patient is to stabilize and deliver to a hospital with surgical facilities ASAP.
   11. Maximum scene time for a seriously injured trauma patient should be 10 minutes. That time limit may be extended if extenuating circumstances exist.
   12. For critical trauma patients or patients with a potential for deterioration, the ABCs should be assessed and managed where the patient is found. Other stabilizing procedures, including the starting of IVs, should be performed enroute to the hospital.

B. Patient movement
   1. Do primary and secondary assessment before patient movement unless scene hazards dictate otherwise.
   2. Monitor airway while moving.
   3. Assume cervical spine injury until proven otherwise by x-ray.
   4. Roll as a unit.
   5. Splint prior to movement if possible. However, splinting should not delay beginning transport with a critically injured patient.
   6. Move the patient in a careful and controlled manner.
   7. Use proper body mechanics when lifting and moving patients.
   8. Do not allow others on the scene to lift or move your patient in an adverse manner.

CARDIAC ARREST SECONDARY TO TRAUMA

A. Information Needed
   g. Time without pulse prior to arrival
   h. Mechanism (Blunt vs. Penetrating)
   i. Salvageability

B. Physical findings
   1. Vital signs absent
   2. Pallor and/or cyanosis

C. Determine salvageability
   1. Cardiac arrest secondary to blunt trauma is generally not an indication to attempt resuscitation. Resuscitative efforts should only be attempted if the arrest is witnessed or if extenuating circumstances exist.
   2. Trauma arrests secondary to penetrating truncal injuries have a slightly better prognosis if treated aggressively. Prognosis is best in patients with low-velocity penetrating injury. Younger patients have a slightly better chance of survival.
   3. If uncertain, attempt to resuscitate!

D. Treatment (Assuming that the patient is potentially salvageable)
   1. Airway
      a. Establish an airway as quickly as possible with respect for a potential spinal cord injury. However, do not delay establishing an airway.
      b. Utilize a modified jaw thrust or similar maneuver to open and maintain the airway.
   2. Hyperventilate the patient
   3. Administer high flow oxygen via BVM
   4. Attach pulse oximeter if available
   5. Intubate
      a. Attempt to keep the c-spine in a neutral position
      b. Minimize neck movement
   6. Rapid immobilization/extrication
   7. Begin transport
   8. Establish two large bore IVs with NaCl
   9. ECG monitor
   10. Treat arrhythmias as for medical arrest (after other steps have been taken)

E. Precautions--Rapid delivery to a facility with emergency surgical facilities (Level I or Level II Trauma Center) is of utmost importance

F. The AED is intended primarily for use on medical patients. If the patient is in cardiac arrest secondary to trauma the following protocol should be followed:
   1. If an AED is available before an ambulance becomes available, the device should be attached and used as outlined above.
   2. Once a transport vehicle becomes available, priority should be given to promptly transporting the patient to a hospital with emergency surgical capability. Transport should not be delayed in order to perform

defibrillation. The AED should not be used during transport of a traumatic cardiac arrest patient.

CHEST INJURIES
(Traumatic Respiratory Distress)

I. Information Needed
- A. Injury: mechanism and estimate of force involved, use of seat belts, vehicular damage (steering wheel, windshield)
- B. Patient complaints: chest pain, respiratory distress
- C. Past history: medical problems, medication

II. Physical Findings
- A. Vital signs
- B. Inspection: wounds, (nature, location, sucking) chest wall movement, flail, jugular venous distention, difficulty bagging, bruising
- C. Auscultation: breath sounds, bowel sounds, heart tones
- D. Palpation: tenderness, anatomic abnormalities, crepitus, subcutaneous air, tracheal position,

III. Treatment
- A. Assume neck injury if significant trauma involved
- B. Insure a patent airway
- C. Hyperventilate and intubate if needed
- D. Oxygen 15 l/mask.
- E. Attach pulse oximeter if available
- F. Open chest wound: cover with Vaseline-type gauze occlusive dressing taped on three sides, to allow air to escape but not enter the chest
- G. Assess for presence of tension pneumothorax
  1. Diminished breath sounds on affected side
  2. Hyperresonance on affected side
  3. Decreased compliance (difficult to ventilate)
  4. JVD
  5. Tracheal deviation (in advanced cases)
  6. If tension pneumothorax present:
     - a. Remove any occlusive dressing previously applied
     - b. Contact Medical Control
     - c. Consider pleural decompression
       - (1) **(P)*** Insert 14 or 12 gauge angiocath into 2nd intercostal space on the midclavicular line. Insert catheter directly over the top of the 3rd rib (to avoid nerves and blood vessels).
- H. Impaled objects should be stabilized and left in place
- I. Transport patient
- J. IV NaCl with large bore catheter at rate to attain/maintain BP of 90-100 systolic.
- K. Contact Medical Control
- L. **(P)** Monitor ECG
- M. Monitor vital signs frequently

IV. Precautions

A. Prolonged treatment of chest trauma before transport is contraindicated if significant injury is suspected. If the patient is critical, transport rapidly and avoid treatment of non-emergency problems on the scene. Any penetrating injury, even if it appears stable, should be promptly transported.

B. Consider medical causes of respiratory distress which have either caused trauma or been aggravated by it.

C. Chest injuries sufficient to cause respiratory distress are commonly associated with significant blood loss.

D. Myocardial contusion may result from blunt chest trauma. Pain may be similar to that of typical myocardial ischemia. Arrhythmias, including AV block may result.

E. Clues to such an injury may include a bent or broken steering wheel, bruising to the anterior chest, or an unstable sternum.

HEAD TRAUMA

I. Information Needed
   A. History: mechanism of injury, estimate of force involved, change in level of consciousness since injury, loss of consciousness - how long?, amnesia prior to and/or following trauma. With motorcycle and bicycle accidents, was helmet worn? Any movement noted by bystanders.
   B. Past medical history, medications

II. Physical Findings
   A. Vital signs (note respiratory pattern and rate)
   B. External evidence of trauma (abrasions, lacerations, etc.)
   C. Level of consciousness
   D. Glasgow coma exam or other neurological exam, including pupils and response to stimuli

GLASGOW COMA SCALE

Eye Opening:	
none	1
to pain	2
to speech	3
spontaneous	4
Best Verbal Response:	
none	1
garbled speech	2
inappropriate words	3
confused	4
oriented	5
Best Motor Response:	
none	1
abnormal extension	2
abnormal flexion	3
withdraws	4
localizes	5
obeys	6

TOTAL =	_____

III. Treatment
   A. ABCs. Have an assistant stabilize the neck.
   B. Immobilize cervical spine with firm collar and immobilization device.
   C. Stop bleeding with direct pressure. Be cautious when applying pressure to unstable areas of the skull.
   D. Oxygen 4-6 l/min. (more if other complicating injuries are present)
   E. Attach pulse oximeter if available
   F. Be alert for airway problems and/or seizure activity

G. Secure airway with EOA or
(P) Place an endotracheal tube and ventilate if gag reflex absent. Be aware of possible cervical spine injury in choosing intubation technique.

H. Ventilate at a rate of 12 -16/ minute. DO NOT hyperventilate patients with closed head injury UNLESS the patient is rapidly deteriorating.

I. IV NaCl KVO. If patient hypotensive give 200 cc bolus. May repeat to maximum of 1,000 cc so long as chest remains clear and patient remains hypotensive. If no signs of hypovolemia IV should be strict KVO.

J. Monitor vitals and level of consciousness repeatedly at scene and during transport. STATUS CHANGES ARE IMPORTANT.

K. **(P)*** If transport time greater than 30 minutes and patient rapidly deteriorating consider Furosemide 40-80 mg IV.

IV. Precautions

A. The most important information you provide for the base physician is a neurologic status trend. Is the patient stable, deteriorating, or improving?

B. Assume cervical spine injury in all patients with significant trauma above the clavicles.

C. If patient with head trauma is in shock, look elsewhere for cause. Shock is probably not due to head injury.

D. Restlessness can be a sign of hypoxia. Cerebral anoxia is the most frequent cause of death in head injury.

E. Scalp lacerations can be the source of significant blood loss. Control of the hemorrhage should be by direct pressure, not a bulky absorbent dressing. Do not apply excessive pressure over areas where unstable skull fracture is likely.

F. For interhospital transfers, insure that the C spine remains immobilized if there is any doubt as to the status of the patient's spine.

HYPOTENSION
(Traumatic)

I. Information Needed
- A. Age
- B. Findings of thorough physical examination
- C. Medical history if available
- D. Medications

II. Physical findings
- A. Decreased perfusion status (abnormal level of consciousness, nail bed return, oxygen saturation, etc.)
- B. Secondary complaints (chest pain, dyspnea, confusion, etc.)
- C. Primary causes

III. Treatment
- A. ABCs
- B. Oxygen 15 l via non-rebreather
- C. Control hemorrhage, immobilize
- D. Begin transport
- E. Attach pulse oximeter if available
- F. IV .9% NaCl
- G. 200 cc fluid bolus (if chest clear). May repeat maintain BP of 80-90 to maximum of 1,000 cc so long as chest remains clear and patient remains hypotensive.
- H. Contact medical control

IV. Precautions
- A. Be cautious administering fluid to patients who are elderly or who have head injury.

Treatment Algorithm:
Hypotension due to Trauma

(BP < 90 or other signs/symptoms of inadequate perfusion)

ABCs (with concurrent spinal immobilization)

↓

Oxygen 15 l/min via non-rebreather

↓

Place patient in supine position

↓

Attach pulse oximeter if available

↓

IV NaCl with large bore catheter

↓

Hypotension 2^{o} to internal hemorrhage →→ YES →→ NaCl at rate to attain/maintain BP of 90. May repeat to maximum of 1,000 cc so long as chest remains clear and patient remains hypotensive.

↓

NO

↓

Hypotension 2^{o} to controllable extremity hemorrhage →→ YES →→ Replace lost volume

↓

NO

↓

Hypotension 2^{o} to burns →→ YES →→ NaCl 200cc bolus (child 20 cc/kg)--may be repeated to total of 1,000 cc (child 40 cc/kg) if breath sounds clear

↓

Contact Medical Control

↓

Transport patient

Notes:

1. *Assume cervical injury in patients with significant upper body or head trauma.*
2. *Assess breath sounds carefully before administering large amounts of fluid.*
3. *Reassess vital signs and other indicators of perfusion frequently.*
4. *Do not force patient into supine position if poorly tolerated.*
5. *Rapid transport should be of utmost priority for unstable (or potentially unstable) trauma patients--IVs should be started enroute.*

SPINE TRAUMA

I. Information Needed
   A. Mechanism of injury and force involved
   B. Past medical problems and medications

II. Physical Findings
   A. Vital signs
   B. Physical exam emphasizing neurological status; level of sensory deficit, diaphragmatic breathing, priapism.
   C. Associated injuries
   D. Careful attention to injury in organs or limbs in areas without sensation

III. Treatment
   A. ABC's
   B. Immobilize cervical spine with firm cervical collar, appropriate spine/head immobilization device and tape
   C. Bradshaw Device
   D. Immobilize thoracic and lumbosacral spine with spine board (or other firm surface). Move patient as little as possible and always move as a unit.
   E. Oxygen 4-6 L/min if no complicating factors.
      Attach pulse oximeter if available
   F. IV NaCl KVO or as directed.
   G. Monitor vital signs frequently
   H. Patient movement and transport should be done deliberately and carefully so as not to complicate existing injury.

IV. Precautions
   A. Be prepared to tip the entire board on side if patient vomits. (Patient must be secured to spine board or scoop stretcher--wide tape anchored to both sides of board, not the stretcher preferred.)
   B. Neurogenic shock is likely with significant spinal cord injury. Raising foot of board will usually correct this. However, this technique will also allow the abdominal contents to press on the diaphragm, so respiratory function must be monitored closely.
   C. If patient has sustained high level cord injury, he may be breathing solely by using his diaphragm. Do not put such a patient in a head down position. Instead raise the feet only.
   D. Neurologic deficits make evaluation of other injuries very difficult - think of internal bleeding if shock is severe. Injury above the level of T-8 removes tenderness, rigidity and guarding as clues to abdominal injury.
   E. Respiratory problems are common and need to be managed very cautiously when potential spine injury is present. Use of nasopharyngeal airways and nasotracheal tubes is encouraged. However, nasotracheal tubes should be used with caution, if at all, if fractures of the face are likely.
   F. The patient with spine trauma and normal neurogenic function or only a partial deficit is the patient who will benefit most from your conscientious immobilization efforts.

G. With interhospital transfers, do not rely on the sending physicians' diagnosis of cervical spine x-rays. Patients with significant trauma should remain immobilized, with a cervical collar in place.

WRITTEN REPORTS

Prior to EMS crew departure, Patient Care Reports shall be left at the receiving facility for ALL trauma patients, with documentation of the call from time of dispatch until time of report at receiving facility.

Written reports should be more lengthy and detailed than the radio report. A typical run report should include all of the following information:

1. Age and sex of patient
2. Mechanism of injury (if trauma)
3. Chief complaint
4. Associated complaints (injuries)
5. Level of consciousness and level of distress
6. Vital signs (BP, P, R, EKG, O2 saturation)
7. Physical findings:
   a. Breath sounds
   b. Neurologic status
   c. Other pertinent physical findings
8. Pertinent medical history and current medications
9. Treatment
   a. By protocol
   b. By direct order
10. Response to treatment (e.g. no change, improvement, or decline in patient condition)
    Document specific pertinent changes (e.g. changes in level of consciousness, vital signs/color, etc.).
11. Patient condition upon arrival at receiving facility.
12. Amount of fluid infused (if IV started).
13. Person accepting responsibility for patient at receiving facility.
    Other pertinent information (e.g. special problems, unusual information about patient, etc.)

Notes:

1. Spell correctly. Misspelled words indicate a lack of professionalism and may be a significant liability if called to testify in court.
2. The report must be legible.
3. Document in detail any activities that may be controversial.

II. Transfers; Coordination of Transportation

The geographic area covered by the Central Mississippi Trauma Region includes the most populous urban area of Mississippi, as well as very sparsely populated rural areas. Transportation resources include BLS and ALS ground ambulances, as well as critical care air ambulance transport.

The goal of the transport component is the timely delivery of trauma patients to designated facilities, utilizing the most expedient and appropriate means of transport. Of primary concern in the transfer process is reducing the time from injury to appropriate definitive care. Elapsed time between injury and receipt of definitive care depends upon:

- public recognition of the event
- access to EMS system (911)
- response time performance of the EMS system
- level of training and performance on-scene
- distance to appropriate definitive care

The failure of any individual element or coordination between elements can result in significant delays, to the detriment of the patient. The trauma system, through its education, medical direction, and performance improvement components can have a substantial impact on assessment, improvement and coordination of all these elements.

Under the *Mississippi Trauma Care System Regulations*, patients may be transferred between and from Trauma Centers, provided, that any such transfer be: (1) medically prudent, as determined by the transferring Trauma Center physician of record, and (2) in accordance with the designated Trauma Region transfer policies. (*MTCSR* §X.)

Once the need for transfer is recognized, the process should not be delayed for laboratory or diagnostic procedures that have no impact on the transfer process or the immediate need for resuscitation. *(ACS COT Ch. 4)*

Guidelines for Transferring Patients:

1. **Transferring Physician Responsibilities**
   a. Identify the patient needing transfer
   a. Initiate the transfer process by direct contact with the receiving surgeon
   b. Initiate resuscitation measures within the capabilities of the facility
   c. Determine the appropriate mode of transportation on consultation with the receiving surgeon or physician
   d. Transfer all records, results and X-fays to receiving facility
2. **Treatment Prior to Transfer**
   The patient should be resuscitated and attempts made to stabilize his or her condition with respect to ABCDE.
3. **Receiving Physician Responsibilities**
   a. Ensure resources are available at the receiving facility
   b. Provide advice/consultation regarding specifics of the transfer or additional evaluation/resuscitation prior to transport

c. Once transfer of the patient is established, clarity and identify medical control
d. Identify a PI process for transportation, allowing feedback from the receiving physician to the transport team directly or at least to the medical direction of the transport team.

4. **Management During Transport**
   During transport, continued management of vital functions and continuous reevaluation are essential:
   a. Qualified personnel and equipment must be available during transport to meet anticipated contingencies
   b. Sufficient supplies must accompany the patient during transport, such as IV fluids, blood, and medications as appropriate
   c. Vital functions should be frequently monitored
   d. Vital functions should be supported; for example, hemodynamics, ventilation, central nervous system, and spinal protection
   e. Records should be kept during transport
   f. Communication must be kept with on-line medical direction during transport
5. **Information to Accompany Patient** (See attached Transfer Form example.)
   Information concerning the patient's condition and needs during transport should be communicated to transporting personnel. A written record containing the following information should accompany the patient:
   a. Available patient demographic information
   b. Name of next of kin
   c. Information concerning nature of injury event, time of occurrence, and prehospital care (run report)
   d. Summary of evaluation and care provided at transferring facility, including results of diagnostic tests, X-rays obtained, injuries identified, patient's response to treatment, amount of fluids and blood infused, and chronologic record of vital signs, and urinary output.
   e. Other helpful information, including medical history, current medications, medications/immunizations administered, and allergies
   f. Name, address and phone number of referring physician, in case additional details are needed.
   g. Name of the physician who accepted the patient at the receiving hospital

CRITERIA FOR CONSIDERATION OF TRANSFER

(These guidelines are not intended to be hospital-specific)

CENTRAL NERVOUS SYSTEM

Head injury
- -penetrating injury or open fracture (with or without cerebrospinal fluid leak)
- -Depressed skull fracture
- -Glasgow Coma Scale (GCS) < 14 or GCS deterioration
- -Lateralizing signs

Spinal cord injury
- -Spinal cord injury or major vertebral injury

CHEST

- Major chest wall injury or pulmonary contusion
- Wide mediastinum or other signs suggesting great vessel injury
- Cardiac injury
- Patients who may require prolonged ventilation

PELVIS/ABDOMEN

- Unstable pelvic ring disruption
- Pelvic fracture with shock or other evidence of continuing hemorrhage
- Open pelvic injury
- Solid organ injury

MAJOR EXTREMITY INJURIES

- Fracture/dislocation with loss of distal pulses
- Open long-bone fractures
- Extremity ischemia

MULTIPLE-SYSTEM INJURY

- Head injury combined with face, chest, abdominal, or pelvic injury
- Bums with associated injuries
- Multiple long-bone fractures
- Injury to more than two body regions

COMORBID FACTORS

- Age >55 years
- Children <u>≤5</u> years of age
- Cardiac or respiratory disease
- Insulin-dependent diabetes, morbid obesity
- Pregnancy
- Immunosuppression

SECONDARY DETERIORATION (LATE SEQUELAE)

- Mechanical ventilation required
- Sepsis
- Single or multiple organ system failure (deterioration in central nervous, cardiac, pulmonary, hepatic, renal, or coagulation systems)
- Major tissue necrosis

Note: It may be appropriate for the injured patient to undergo operative control of ongoing hemorrhage prior to transfer if a qualified surgeon and operating room resources are promptly available at the referring hospital.

Adapted from ACS Committee on Trauma: Resources for Optimal Care of the Injured Patient, 1999.

TRANSFER FORM

Date ___/___/___ Time _____am/pm

Patient Name_____
Address _____
Age _____
Birth Date _____
SSN _____
Phone _____
Next of Kin _____
Phone _____
Notified Yes____ No____
Injury Mechanism
MVC GSW Stab Alter Fall Other
Date of Injury ___/___/___
Time of Injury _____ am/pm
Medications _____
_____
_____
_____
_____
Allergies _____
_____
_____
Medications Administered _____
_____
_____
_____
_____
Fluid Administered
Crystalloid (type) _____ (vol) _____
Colloid (type) _____ (vol) _____
Blood (type) _____ (vol) _____
FFP (type) _____ (vol) _____
Other (type) _____ (vol) _____

Initial Vital Signs
BP ____/____ P____ T_____F/C
RTS _____ GCS_____

Prehospital Run Report Attached
Yes____ No____
Injuries Identified _____
_____
_____
_____
_____
_____
_____
Treatment/Procedures_____
_____
_____
_____
_____
_____
_____
_____
_____
Immunizations _____
_____
_____

Referring MD _____
Address
Phone (_____) _____

Accepting MD _____
Time _____ am/pm

Additional Information:
Attach all pertinent flow sheets, vital signs, notes, diagnostic tests/results, consent forms for transfer, etc.

III. Aeromedical Transport

Air medical transportation has become an important method of rapidly transporting injured patients from the scene or the transferring facility to the trauma center. Air medicine has allowed advanced life support and critical care to be delivered at the scene of the incident and en route to the trauma center. A structured air medical safety program must be in place to guide prehospital personnel in establishing a safe landing site, proper loading procedures, communications with pilots and medical personnel, and safe procedures in proximity to an operating helicopter.

Both direct and indirect medical direction must be part of air medical care. The medical flight crew should have a structured air medical educational curriculum and an ongoing performance improvement program. *(ACS COT Manual, Ch. 3, Prehospital Trauma Care)*

a. Policies

The objective of interfacility transport, whether by ground or air, is to reduce, as much as possible, the time between the injury event and surgical intervention. To this end, the use of an EMS helicopter for transport of critical trauma patients may be beneficial. In cases where it is appropriate to transport a patient to a community hospital, the paramedic may request the launch of the UMC helicopter to a community hospital prior to or during transport of the patient to that hospital.

As a specialized transport service providing statewide service, the UMC helicopter is also considered a Regional Resource. The Region will promulgate policies and procedures for transport between transferring and receiving facilities within the Region.

Procedures for requesting, dispatch and response of air transport shall be according to policies established by the aeromedical service.

b. Helicopter Landing Sites

Facilities utilizing helicopter transport services shall establish and maintain safe and appropriate landing zones on or near their hospital campuses. Landing areas may be subject to safety inspections, and facilities should be prepared to make changes as recommended.

For situations where a helicopter is dispatched to a hospital landing area for direct loading of patients from ambulance to helicopter, or should policies permit scene flights or dispatch to pre-arranged landing zones, safety procedures shall be established to ensure the appropriateness and safety of landing areas, scene safety and security, and other procedures for safe and appropriate patient handling and management.

A training program shall be developed by the aeromedical service to enable the safe landing of aircraft, safe and efficient loading of patients, and safe departure of the

aircraft. This program should involve all personnel who could expect to assist in such situations: law enforcement/security, ED personnel, EMS, fire/rescue, etc.

IV. Prehospital Performance Improvement

1. Purpose

The purpose of the pre-hospital record audit is to establish a method of evaluation for the pre-hospital care being delivered, and thus be able to establish benchmarks as goals for improvement. Data from agencies within the Central Trauma Region will be collected, organized and evaluated and the results utilized for continued system improvement. As the Performance Improvement evaluation continues, changes will be implemented in the plan, especially in the area of goals and indicators. Feedback will be provided to EMS agencies, as this is an important aspect of quality improvement. Results of the evaluations will also be made to the State EMS office, as well as the Central Trauma Region Board of Directors.

2. Policy

EMS agencies will be required to provide audits on a quarterly basis. Prior to each quarter, agencies will receive a request from the Performance Improvement Committee listing specific filters (indicators) with which to assess records for the upcoming quarter. This report should be returned to the Regional Office within 30 days. Indicators requested will be not less than four (4), nor more than six (6) for one quarter. Additionally, there may be a random request for a specific filter if there is a need indicated, or if it is requested by the Board of Directors.

3. Procedure

Section 7 below contains a list of indicators from which the Performance Improvement Committee may choose for quarterly reports. Letters will be sent out to each EMS agency in the Region at least 14 days in advance with the specific indicators for the following quarter. The audit should be completed and returned to the administrator within 30 days of the end of the quarter.

4. Corrective Action

In order to reduce variations of care, once problems are identified, the EMS Agency will be asked to submit a plan to correct identified problems. The plan should include desired changes, the name of the person assigned to resolve the problem, and a description of the action to be taken. *Mississippi EMS Rules and Regulations* mandate prehospital providers' compliance with this Trauma Plan, including these Performance Improvement policies and procedures. Noncompliance with this policy will be considered a violation of Mississippi law and EMS Rules and Regulations and will be reported to the Division of EMS, MSDH for administrative enforcement.

5. Re-Evaluation

Three months after the corrective action plan has been submitted, the problem identifier will be re-evaluated. The EMS agency will receive documentation of any findings, as well as any need for continued action.

6. Confidentiality

The Central Trauma Region will abide by the laws of the State of Mississippi regarding confidentiality. Patient names or other identifying criteria will not be used in reports or audits distributed to the Board of Directors or the State EMS Office. It is recognized that auditors from the EMS Office, Mississippi State Department of Health, may be granted access to confidential materials containing patient names or other identifying information during the course of audits or other official Performance Improvement activities or reviews of the Performance Improvement process. Auditors are to be granted access in the course of their official duties, and are also bound by applicable laws regarding patient confidentiality. Any records containing patient names or other identifying information received by Regional officers or employees shall be stored under lock and key until destroyed.

7. Recommended EMS Audit Indicators

1. IV lines established where attempted
2. Intubation established where attempted
3. A scene time < 10 minutes (except in prolonged extrication)
4. Vital signs complete
5. Hospital destination appropriate
6. GCS recorded in categories
7. Pediatric Coma Score recorded in categories
8. RTS recorded
9. Emergent calls dispatched within 60 seconds
10. Length of time between Dispatch times and Arrival times for transfers out (hospital to hospital)
11. If patient in EMS care longer than 15 minutes, additional sets of VS documented
12. O2 use documented
13. Timely pre-arrival communication with receiving hospital
14. Documentation that written report left at health care facility with patient
15. Compliance with regional trauma guidelines and protocols
16. Any Bypass or Diversion orders/protocols initiated

APPENDIX

1. Board of Directors

2. Letters of Participation

Central Mississippi Trauma Region
Board of Directors

Dr. Gregg Timberlake—Level I Physician Representative; Board Chairman
University Medical Center
Department of Surgery
2500 N. State St.
Jackson, MS 39216
(W): 601-815-1312
(Fax): 601-815-1132
gtimberlake@surgery.umsmed.edu

Joe Clancy—Level IV Administrator Representative; Board Vice Chairman
Rankin Medical Center
350 Crossgates Blvd.
Brandon, MS 39042
(W): 601-284-8687
(Fax): 601-284-8530
joe.clancy@rmc.hma-corp.com

Clyde Deschamp—EMS Representative, Board Secretary/Treasurer
2500 N. State St.
Jackson, MS 39296
(W): 601-984-5585
(Fax): 601-984-6768
cdeschamp@shrp.umsmed.edu

David Putt—Level I Administrator Representative
UMC Hospital and Clinics
2500 N. State St.
Jackson, MS 39216
(W): 601-984-1000
(Fax): 601-984-4125
dputt @hospadmin@umsmed.edu

Dr. Chris Jackson—Level III Physician Representative
River Region Health Systems
P.O. Box 4504
Jackson, MS 39296
(W): 601-925-1891
(Fax): 601-883-5199
cljaxon@yahoo.com

John Williams, RN—Level III Administrator Representative
River Region Health Systems
2100 Hwy 61N
Vicksburg, MS 39183
(W): 601-883-5114
(Fax): 601-883-5199
john.williams@riverregion.com

Dr. Perry Lishman——Level IV Physician Representative
P.O. Box 887
Kosciusko, MS 39090
(W): 662-289-4322
(Fax): 662-289-6080
pjlishman@aol.com

William Bassett—EMS Representative
American Medical Response
360 Woodrow Wilson Ave.
Jackson, MS 39213
(W): 601-713-4340
(Fax): 601-982-2297
william_bassett@amr-ems.com

Dr. Rick Carlton---Medical Director
University Medical Center
Emergency Department
2500 N. State St.
Jackson, MS 39216
(W): 601-984-5572
(Fax): 601-984-5583
Home: fcarlton@pol.net
Work: fcarlton@emergmed.umsmed.edu

C. Bradley Carter, JD, REMT-P—Regional Executive Director
Central MS Trauma Region
855 S. Pear Orchard Rd., Ste. #401
Ridgeland, MS 39157
(W) 601-206-1771
(F) 601-206-1772
(C) 601-906-2670
centraltrauma@aol.com

Central TCA

Claiborne County Hospital

123 McComb Avenue
P.O. Box 1004
Port Gibson, Mississippi 39150-1004
(601) 437-5141

WANDA C. FLEMING, M.B.A.
Administrator/Chief Executive Officer

June 30, 1999

Mr. Wade Sprull
Division of Emergency Medical Services
Mississippi State Department of Health
P.O. Box 1700
Jackson, Mississippi 39215-1700

Dear Sir:
Mrs. Jeanette Felton, Director of Nursing has explained that Claiborne County Hospital has set up a trauma registry. She has informed us that she is collecting the data that is a requirement for participation. We are in support of Claiborne County Hospital efforts to become accredited as a Level IV Trauma Center. It is our understanding that a Level IV Trauma Center provide initial care to the severely injured despite its limited resources. We can provide initial stabilization and would benefit from prearranged transfer agreement between hospitals in the central region.

Sincerely,

Dr. Roy Barnes

Dr. Demetri Marshall

Dr. David Headley

Cc: Mr. Mark Wall
Administration
University Medical Center
2500 North State St.
Jackson Mississippi 39216

"Here To Meet Your Health Care Needs"

Claiborne County Hospital

123 McComb Avenue
P.O. Box 1004
Port Gibson, Mississippi 39150-1004
(601) 437-5141

WANDA C. FLEMING, M.B.A.
Administrator/Chief Executive Officer

23 July 1999

Mr. Wade Spruill
Division of Emergency Medical Services
Mississippi State Department of Health
P. O. Box 1700
Jackson, MS 39215-1700

RE: Commitment to Participate – Level IV Trauma Center

Dear Mr. Spruill:

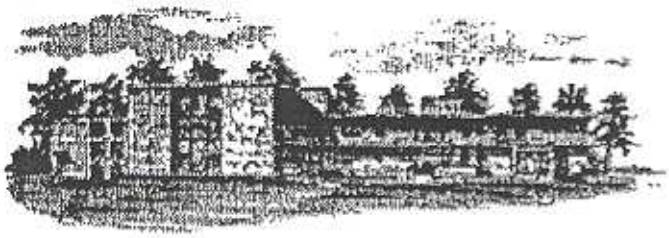
This correspondence comes to certify Claiborne County Hospital's commitment to participate in the state Trauma Network as a Level IV Trauma Center. Mrs. Jeanette Felton, Director of Nurses/ER Services serves as our facility contact.

Should you have questions, or need additional information, please contact Mrs. Felton at (601) 437-5141, Ext. 204. Thank you.

Sincerely,

Wanda C. Fleming
Administrator/CEO

Cc Mrs. Jeanette Felton, DON (CCH)
Mr. Mark Wall – UMC



Hardy Wilson *MEMORIAL HOSPITAL*
OF
COPIAH COUNTY
HAZLEHURST, MISSISSIPPI 39083-0869
601-894-4541

Central
+ R

Monday, August 16, 1999

Mississippi Trauma Registry
Beth Nations
PO Box 1700
Jackson, MS 39215-1700

Dear Mrs. Nations

This letter is written to confirm that Hardy Wilson Memorial Hospital will participate in the Mississippi Trauma Registry.

Sincerely.

L. Pat Moreland,
CEO

Sincerely,

Robert L Walker MD

Robert Walker,
VP, Chief of Staff
ER Chairman

LACKEY MEMORIAL HOSPITAL

A Division of Independent Healthcare Management, Inc.

Central TCR

CENTRAL TRAUMA CARE REGION

10/7/98

Lackey Memorial Hospital
330 N. Broad St.
Forest Ms. 39074

Division of Emergency Medicine
Ms. State Department of Health
Wade Spruill
P.O. Box 1700
Jackson Ms. 39215-1700

Mr. Wade Spruill

This letter is to inform you of our intent to be a part of the Mississippi Trauma Care System. Our Medical Staff, Hospital Administration and our corporate owners have committed to provide all resources necessary to fulfill our role in this endeavor.

We are excited to have the opportunity to be a part of this system in effort to provide a higher level of care for the trauma patients of our state.

Sydney Sawyer, RN, Director of Patient Services is the contact person for our facility. Please remit any correspondence to his attention.

Sincerely:

Donna Riser

Donna Riser, Administrator

John P. Lee, MD, Director of Medical Staff

RECEIVED
OCT 9 1998
EMERGENCY MEDICAL SERVICES

Leake Memorial Hospital

January 31, 2000

Mississippi Department of Health-Division of EMS
Attention: Beth Nation
P.O. Box 1700
Jackson, Mississippi 39215

RE: Central Mississippi Trauma Region – Request for Participation

Dear Ms. Nation

This is to notify you that Leake Memorial Hospital, Carthage, Mississippi 39051 is very interested in participating in the Trauma Program for Central Mississippi Hospitals.

We would be participating at Level IV.

Please notify us of our acceptance and include regulations and/or guidelines that may assist us is improving our trauma unit.

Sincerely,

Cindy Tadlock
Administrator
CT/tm

Acknowledgement and Approval

William Logan, M.D.
Chief of Staff

Morris M. Bradley
Chief executive Officer

310 Ellis Street ● Carthage, Mississippi 39051 ● 601 267-4511 Ex 267-4580

File Central TCR

Madison County Medical Center

P.O. Box 1607, Canton, Mississippi 39046
601-859-9696 / 601-859-1331 / Fax 601-859-3771

September 19, 1998

Wade N. Spruill Jr., CPM
Mississippi State Department of Health
P.O. Box 1700
Jackson, Ms. 39215-1700

Dear Mr. Spruill,

We at Madison County Medical Center are committed to the highest standards of care for all of our patients. This is why we would like to commit to you our full support in the creation of a state trauma care system. As proof of this commitment we would like to set-up a trauma registry. Please let us know what further steps must be taken in order for us to be a part of a state wide trauma system.

Sincerely,

G. Wayne Schuler, CEO

E.T. Schwab, D.O.
Director of Emergency Services

MAGEE GENERAL HOSPITAL
300 S.E. THIRD AVENUE
MAGEE, MISSISSIPPI 39111
601-849-5070

September 17, 1999

Beth Nations
P.O. Box 1700
Jackson, MS 39215

Dear Ms Nations:

The purpose of this letter is to inform your office of the desire of Magee General Hospital to be included in the Central Trauma Network. If you need further information, please contact me.

Sincerely,

Althea H. Crumpton
Administrator

Frank Wade, M.D.
Chief of Staff

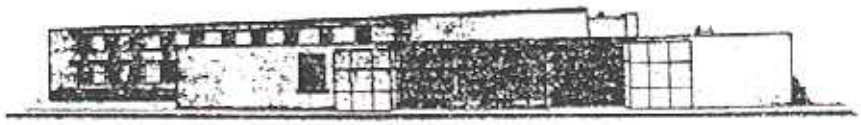
AHC:FW/dcc

cc. File

Central TCR

One of America's 100 best small towns

Montfort Jones Memorial Hospital



THOMAS BLAND
Administrator

TELEPHONES:
289-4311

P. O. DRAWER 677
KOSCIUSKO, MISSISSIPPI 39090

August 16, 1999

Ms. Beth Nation
Ms. State Department of Health
P. O. Box 1700
Jackson, Mississippi 39215-1700

Dear Ms. Nation:

Montfort Jones Memorial Hospital would like to participate in the Central Mississippi Trauma Network and would appreciate any information that you can provide concerning these requirements.

Thank you in advance for your assistance.

Thomas Bland, Administrator
Montfort Jones Memorial Hospital

Perry Lissman, M.D., Chief of Staff
Montfort Jones Memorial Hospital

Rankin
Medical Center
350 Crossgates Boulevard
Brandon, MS 39042-2698
601-825-2811
FAX 601-825-1584

6/9/99

Wade Spruill
Director of EMS
P.O. Box 1700
Jackson, MS 39215

Dear Mr. Spruill,

Rankin Medical Center would like to begin participating in the Mississippi Trauma Registry. We are also interested in participating in the ongoing development of the Mississippi Trauma System.

Please contact our Director of Emergency Services, Christy Henderson, at 824-8500 to arrange software installation and training.

Sincerely,

Robert L. Hammond
Executive Director

John Cook, MD
Emergency Department Medical Director

RIVER OAKS HEALTH SYSTEM
River Oaks Hospital and Woman's Hospital

Central TCR

November 8, 1999

CENTRAL TRAUMA CARE REGION

Mr. Wade N. Spruill, Jr., C.P.M.
Director, Division of Emergency Medical Services
Mississippi State Department of Health
P.O. Box 1700
Jackson, MS 39215-1700

Dear Mr. Spruill:

We have informed the relevant surgical specialists on the staff at River Oaks Hospital of our desire to participate in the Mississippi Trauma Care System as a Level 4 Emergency Room. We canvassed these surgical specialists about their views on this undertaking, and have received several useful, positive comments about our participation. We, therefore, believe that we have the necessary support of our surgeons to allow us to participate in the Trauma Network at Level 4.

Please accept this letter as our formal notification to you that River Oaks Hospital desires and intends to be a fully active participant in the Mississippi Trauma Care System. Please advise if you need any other information from us on this matter. We look forward to working closely and cooperatively with you in further building this important network for the citizens of Mississippi.

Sincerely,

Jack Cleary
President & CEO

Darden H. North, M.D.
Chief of Staff

JJC\dh

cc: John D. Wofford, Jr., M.D.

RECEIVED
NOV 11 1999
EMERGENCY MEDICAL SERVICES

River Oaks Hospital • 1030 River Oaks Drive, Jackson, MS 39208 • (601) 932-1030
Woman's Hospital • 1026 North Flowood Drive, Jackson, MS 39208 • (601) 932-1000

RIVER REGION
HEALTH SYSTEM

R. ALAN DAUGHERTY
CHIEF EXECUTIVE OFFICER

100 MCAULEY DRIVE
P. O. BOX 590
VICKSBURG, MS 39181-0590
(601) 631-2131

CENTRAL TRAUMA CARE REGION

October 29, 1999

Wade N. Spruill, Jr., CPM
Mississippi State Department of Health
P.O. Box 1700
Jackson, MS 39215-1700

Dear Mr. Spruill:

We would like to take this opportunity to inform you that ParkView Regional Medical Center would like to participate in the statewide EMS System.

Dr. Briggs Hopson, Chief of Staff of ParkView Regional Medical Center, has spoken with Dr. Mac Jarmon, vascular surgeon, and Dr. John Dawson, Medical Director of Emergency Services, and they have both committed themselves to assist in any way that is needed in setting up this program at our hospital.

Thank you for your assistance. Please contact our Emergency Room Director, Sandy Redditt, should any additional information be required.

Sincerely,

R. Alan Daugherty
Chief Executive Officer

W. Briggs Hopson, Jr., M.D.
Chief of Staff

John Dawson MD

John Dawson, MD
Medical Director

Henry Mac Jarmon, MD
Vascular Surgeon

AD/re
cc: F. Jones
S. Redditt

NOV 4 1999

SCOTT
REGIONAL HOSPITAL

December 16, 1999

Wade N. Spruill, Jr.
Director of EMS
P.O. Box 1700
Jackson, MS 39215

Dear Mr. Spruill:

The Medical Staff of Scott Regional Hospital would like to participate in the MS State Trauma Registry.

We would like to be placed on the schedule for inspection to become a designated Level 4 Trauma Care Center.

Thank you for your consideration in this matter.

Sincerely,

Howard Clark, M.D.
Chief of Staff

P.O. Box 259 • Morton, Mississippi 39117 • Phone (601) 732-6301 • Fax (601) 732-6476

SCOTT
REGIONAL HOSPITAL

December 13, 1999

Wade N. Spruill, Jr.
Director of EMS
Post Office Box 1700
Jackson, MS 39215

Dear Mr. Spruill:

Please consider this our letter of intent for assignment in the MS State Trauma Registry.

We would like to be placed on the schedule for inspection to become a designated Level 4 Trauma Care Center.

Thank you for your consideration in this matter.

Sincerely,

Michael R Edwards

Michael R. Edwards

P.O. Box 259 • Morton, Mississippi 39117 • Phone (601) 732-6301 • Fax (601) 732-6476

THE UNIVERSITY HOSPITALS AND CLINICS
THE UNIVERSITY OF MISSISSIPPI MEDICAL CENTER
2500 North State Street
Jackson, Mississippi 39216-4505

Office of the Hospital Director

CENTRAL TRAUMA CARE REGION
601-984-4100

October 20, 1999

Mississippi State Department of Health
Mr. Wade Spruill
Division of EMS
P. O. Box 1700
Jackson, MS 39215-1700

Re: Trauma System

Dear Mr. Spruill:

The University Hospitals and Clinics is hereby requesting participation in the Mississippi Regional Trauma System. We will continue to partake in the Trauma Registry.

Sincerely,

Frederick D. Woodrell
Associate Vice Chancellor for Integrated
Health Systems and Director of Hospitals
and Clinics

William W. Turner, Jr. M.D.
Chairman, Department of Surgery
Chairman, Surgical and Recovery Suite Committee

FDW/WWT/csl

OCT 26 1999

THE UNIVERSITY HOSPITALS AND CLINICS — HOLMES COUNTY
238 Bowling Green Road
LEXINGTON, MISSISSIPPI 39995

Office of the Administrator

Area Code 662
834-1321
Fax 662
834-5240

April 12, 2000

Mr. Keith Parker
State Department of Health
Division of EMS
Post Office Box 17
Jackson, MS 39215

Dear Mr. Parker:

The University Hospitals and Clinics-Holmes County would like to participate in the State EMS Trauma System as a Level IV Emergency Room. We look forward to working with you on this project.

Sincerely,

Thomas G. Honaker, III, FACHE
Interim Administrator

John G. Downer, M.D.
Chief of Medical Staff

TGH:tb

APR 18 2000

Methodist Healthcare

November 9, 1999

Ms. Beth Nation
MS State Board of Health
Division of EMS
Post Office Box 1700
Jackson, MS 39215

Dear Ms. Nation:

On behalf of Methodist Healthcare-Middle Mississippi Hospital, we would like to participate in the development of the statewide Trauma Care System. Please keep us update on the next step that we need to follow to participate in the TCS.

Sincerely,

James K. Greer
Administrator

Harry A. Bartee, Sr., M.D.
Emergency Room Director

JKG:HAB:tb

cc: John Downer, M.D.
Chief of Medical Staff

RECEIVED
NOV 15 1999
EMERGENCY MEDICAL SERVICES

Middle Mississippi Hospital
239 Bowling Green Street • Lexington, MS 39095 • 601-834-1321 • Fax: 601-834-2668